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Textile World

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Bunk or Belief?

"DO YOU really believe the textile industry is making progress, that it has a good chance of achieving fairly stable prosperity; or are the things you write just editorial bunk? Is the wish possibly father to the thought?"

This question was put to us the other day.

It's a fair question. It's an important one, too—not in so far as it relates to the editorial policy of this particular publication, but in its bearing on the industry itself.

Frankly, we tend toward the optimistic rather than the pessimistic. A bad situation never seems entirely hopeless to us; a step in advance is apt to assume more importance, as a trend, than actual results may seem to warrant at the moment.

However, we know positively that we have not been imagining the progress we have discussed editorially. Some of this progress, we admit, cannot be shown on charts nor reflected as yet in financial statements, but it is very real and potentially effective if not allowed to fade away.

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There is, first, the advance in cooperative thinking. This has been demonstrated in many ways: in the coordinated approach to the job of balancing production with demand; in the united stand taken on such matters as hours of labor, night work, etc.; in the aggressive promotional drives to popularize the individual fibers; in the mass consideration of cost principles; in the development of new uses; in the cooperative study of trade practices.

However this would not be sufficient, in itself. We have indicated in the past our appreciation of the limits of cooperation. We have no faith in, nor desire for, a Utopian state in which all units will prosper equally, and in which weak companies are supported by the strong.

Concurrently with this coordinated development has ensued saner action within individual mills. This has been demonstrated in such ways as: alert mechandising methods; well-balanced programs of modernization; heroic changes in products to meet new market demands; re-vamping of manufacturing procedure; adjustment of labor relations policies to new conditions; greater utilization of technically trained men.

There has been, we repeat, this simultaneous advance in thinking and practice, both cooperative and individual. Much of it has been concentrated within the last five years, and was the direct result of prolonged depression.

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Why, then, is not the industry on a financially successful basis? [For we admit, of course, that it is not.]

The answer, we believe, is found very largely in the fact that, to date, the most progressive thinking has not penetrated to a sufficiently large number of individual units. The majority of textile manufacturers, we believe, are still holding on to the past; are hoping against hope, for the return of the "good old days"; are not aware of the fact that the new competition is here to stay, and must be met. Consequently the comparatively few successes are overshadowed by the overwhelming number of failures or near-failures.

Our oft-expressed confidence in the fact that the industry is on the right track, is *not* editorial bunk. We believe it sincerely, and do not expect to be proved wrong. But definite assurance that it will continue on that track, or that it will proceed speedily and surely to the ultimate destination, success, can be supplied only by more general participation on the part of individuals. Thus far, we regret to say, that assurance has not been forth-coming.

The Week in Textiles

as Reflected in This Issue

General

Coal Storage and Handling

Different plants have different requirements in regard to coal handling and storing equipment. Factors which should govern the selection of such equipment and precautions to be taken against the development of spontaneous combustion are outlined. *(page 42)*

Plant Repairs

Unfortunately it is the practice of many executives to allow general repairing around the plant to drift until the advent of cold weather. Repairing at that time is much more difficult and often involves greater expense. A systematic check-up at the present time is beneficial. *(page 51)*

Multi-Stage Valve

Announcement is made of the development of a new type of valve, the purpose of which is to cut down the density and pressure of the escaping medium in a gradual manner. *(page 62)*

Cotton

Less Restricted Production

A let-up in the severe restriction policy advocated by cotton mill executives on mill production now seems imminent due to the low cotton price and probably broader consumption of cotton goods. *(page 41)*

Humanitarian Victory

Campaign of Cotton-Textile Institute for discontinuance of employment of women and minors in mills at night has received endorsement of 83% of entire cotton industry in less than a year, states B. B. Gossett, president Chadwick-Hoskins Co. and vice-president Gossett Mills, calling it economic and humanitarian victory. *(page 52)*

Unwieldy Cotton Supply

With prospect of the third largest cotton crop on record and an already excessive carry over, the unwieldy supply is such as to make cotton average around 7c. for the season, says Dr. L. H. Haney, writing in TEXTILE WORLD Analyst. He calls the Federal Farm Board largely responsible for the cotton farmers' plight and he sees demand conditions as inadequate to furnish mills a satisfactory margin of profit at present. *(page 65)*

Narrow Market for Cotton

An irregular but narrow market has existed for cotton during the week. The trade is waiting for further information to work on, particularly the government crop estimate to be issued on Sept. 8. *(page 69)*

Yarns Are Inactive

Yarns remain inactive with buyers urging prices under the basis which is acceptable to spinners. Trading is principally for yarns from stock and dealers' supplies are being diminished rapidly. *(page 69)*

Goods Market Expectant

Cotton goods are hopeful after a week of fair stability. Expectation of expanded distribution due to low prices furnishes a background of suppressed excitement which may come to the surface after Labor Day in the form of larger business. *(page 73)*

Wool

Woolen-Machinery Obsolescence

Obsolescence seems to be such a generally prevalent condition in woolen mills that its full effect has not been felt by any one plant. Those concerns which give this factor the attention that it deserves are the ones that will ultimately succeed. One of the outstanding strifes in this respect is that which exists between the mule and the ring-spinning frame in this branch of the industry. *(page 38)*

Plan Wool Goods Survey

An extensive survey of the wool goods industry emphasizing the selling end has been started by the Textile Foundation, and Paul T. Cherington, well known marketing counselor explains scope and aims of project. *(page 46)*

First Mill in Maine

The setting up of a woolen mill in the town of Gray by Samuel Mayall in 1790 marks the beginning of that industry in the State of Maine according to records recently uncovered. The mill was destroyed by a flood prior to 1833 and now no physical trace of it remains. *(page 50)*

Yarns Are Firm

Worsted yarns remain firm, which is the story of the last few months, and business is in a formative rather than an active period. Users are impressed with the stability of wool but will not buy yarn until their needs have been more clarified. *(page 69)*

Wool Is Quiet

Wool demand is seasonably quiet. Buyers are interested only in choice lots and there is natural inclination to do little while new lines of goods are proving themselves. Wool sellers believe mills are inadequately covered and will be forced buyers before long. *(page 71)*

The Textile Outlook

THE outlook is one of hope. It will be translated into accomplishment or disappointment in the very near future. The general feeling is that fall needs are most inadequately covered, that buyers have held off and that an avalanche of orders is likely before the end of September. This is particularly true in cottons, has been somewhat realized in knit goods, is uncertain in silks and much less likely in wool goods. The last named product has enjoyed good business for the last few months and expects a let-up until late in the fall. Strong promotional efforts are under way or under consideration in many parts of the textile field and results are hoped for that will minimize the effects of the continued business dullness on textiles. Given any kind of fair weather in general business, textiles are in statistical position and at attractive prices which would almost assure fast sailing.

Knitting

Hosiery Stock Position

Full-fashioned hosiery stocks and output position improved materially in relation to sales, as shown in survey by Wharton School of University of Pennsylvania. Survey covers first half of 1931. *(page 47)*

Spring-Needle Astrakhan Knitting

Variations in handle and appearance of astrakhans may be secured by making changes in the knitting set-up. A typical set-up for a spring-needle astrakhan is supplied. *(page 61)*

Prefer Quality Hosiery

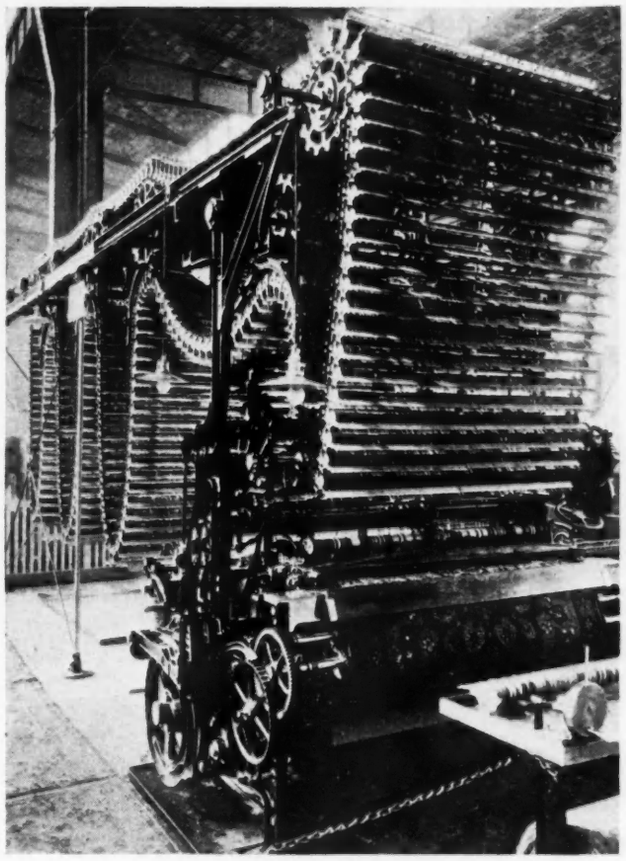
Leading full-fashioned mills note a trend toward trading-up; distributors are more critical of yarn and construction and more ready to pay for quality. *(page 75)*

Heavy Call for Sweaters

Winter sweaters are in spirited demand and mills are oversold, due to cautious production and backward season. *(page 75)*

Underwear Reorders Due Soon

Underwear mills enjoy fair movement of winter lines and look for substantial reorder business toward the end of the month. *(page 75)*



Axminster rug loom made by Platt Bros. & Co., Oldham, England, on exhibit at the Leipsic Fair, Leipsic, Germany.

Silk

Silk-Throwing Problems

The authorized method of determining the denier of a silk is described and problems concerning moisture contact and twist take-up are dealt with. *(page 60)*

Raw Silk Advances 5-15c.

Good demand and light stocks have brought a tightening of raw silk prices; levels rose 5 to 15c. this week and buying continues active up to the holiday. *(page 71)*

Thrown Silk Moving

After months of sluggishness thrown silk shows fair movement and mills hope for steady demand. *(page 71)*

Let-up in Fabric Call

The holiday week brings a let-up in fabric sales but the market continues in good position thanks to moderate stocks. Velvets, satins and cantons lead. *(page 73)*

Rayon

Horizontal Streaks in Voile

Variation in yarn diameter is very often the cause of barré marks in rayon fabrics. The throwster or the weaver may cause this yarn defect or the rayon manufacturer may be at the root of the trouble. *(page 60)*

Weavers Chief Yarn Outlet

It is estimated that 65% of rayon output now is going to weavers. Call from cotton mills has shown big increase. *(page 71)*

Fiber from Castor Oil

A new synthesis involving castor oil as a basic raw material has been worked in the duPont laboratories with a resulting textile fiber which is said to resemble rayon and have many desirable characteristics. Its commercial value has not been established. *(page 81)*

Processing

Color Mixing

An orderly system of color mixing is described by means of which the dyer can reproduce the whole spectrum range with only twelve or eighteen dyestuffs of each class. Graphic charts show the principle. *(page 48)*

Odor in Dyed Top

The development of a rancid odor in dyed worsted top subsequent to backwashing constitutes an undesirable and unnecessary defect. A remedy which strikes at the source of the trouble is described. *(page 60)*

Spots and Streaks in Hosiery

In the finishing of a silk hose there are several points at which there is an excellent opportunity for the goods to receive harsh treatment. High grade products particularly must be given gentle treatment and careful attention. *(page 61)*

The Business Outlook

BUSINESS apparently gave this August up as a bad job. The general level of production, construction and trade as measured by our weekly index averaged about 5% below July and by the end of the month fell to the lowest point of the depression. Securities markets showed reassuring ability to resist unfavorable news. Steel production gave no indications of impending expansion in any line of demand, except possibly structural requirements for public works, the full force of which is being postponed by political inertia and stupidity. General building operations remained at low levels, and the usual seasonal rise in electric power and coal production, in commercial loans and bank debits was absent. The persistent slackness in merchandise carloadings suggests unusual delay in meeting fall retail trade requirements, perhaps because of a late Labor Day. The continued climb of currency outstanding, now above the $5 billion mark, punctuates the collapse of consumer confidence due to job insecurity, wage cuts and bank closings.—*The Business Week.*

Antiquated Spinning Equipment *Prevalent in Woolen Mills*

Third article in second depreciation series*

A TEXTILE engineer recently declared that the woolen industry is in the main 40 years behind the times and that 90% of its equipment is obsolete. Of course that is a very sweeping statement—and no doubt rash—but it raises the question, if practically the entire equipment of the industry is obsolete, is it really necessary for the mills to modernize in order to meet competition? The answer is that, although the effect of obsolescence may not be strongly felt at present, the amount of modern machinery in the mills is bound to grow, and the concerns which are ultimately to succeed are those which adopt it. Furthermore a prevalence of antiquated equipment necessitates high manufacturing costs, with the result that selling prices are high and the market is unnecessarily restricted.

Modern development has laid its finger with particular force on equipment in the garnetting, blending, carding, and spinning departments. If the woolen mule is out of date, obsolescence has dealt its most severe blow in the textile industry at this point. In the article of this series devoted to worsted-yarn machinery — Aug. 1, page 28 — was discussed opening, scouring, and drying machinery common to both worsted and woolen; and it will therefore be unnecessary to consider such equipment here. Rather we shall discuss those processes which belong more exclusively to the woolen industry.

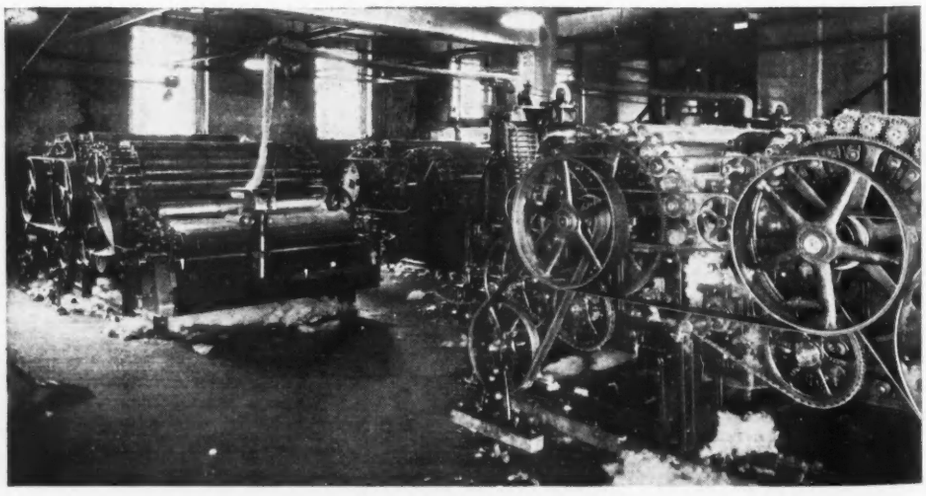
Little development has taken place in raw-stock carbonizing beyond the general improvement which has been made in hydro-extractors—improvements which have increased production, reduced vibration, permitted ease in handling, and afforded greater safety. Rag dusters have been made heavier and more durable, making possible higher production with little vibration and longer life. Rag pickers have been made more efficient by the adoption of larger cylinders, and a recent invention places the discharge in the front of the machine for greater convenience. In a modern lumper, which is capable of taking care of the output of four rag pickers, the main cylinder runs in ball bearings. Dusters for fibrous material are more rigidly and durably constructed, and are equipped with anti-friction bearings.

In the recent revamping of a prominent garnetting mill, an increase in production of 50% was realized by the conversion of three- and four-cylinder garnetts into pairs of two-cylinder garnetts of the 8-in. worker type. The change not only increased production, but improved the quality of the work and permitted greater flexibility, in that now no stock is required to go through more than two cylinders if two are sufficient for the job.

A short time ago an interesting comparison was made in an eastern knitting mill by the A. C. Nielsen Co., of Chicago, between a new four-cylinder garnett having 8-in. workers, three per cylinder, and a three-cylinder garnett having five 4-in. workers per cylinder. The difference in production in favor of the new four-cylinder machine was found to be 126% on worsted thread and soft clips, and 189% on hard waste and hard thread. The second garnetting operation formerly necessary for hard waste and thread was eliminated.

Garnetts in General

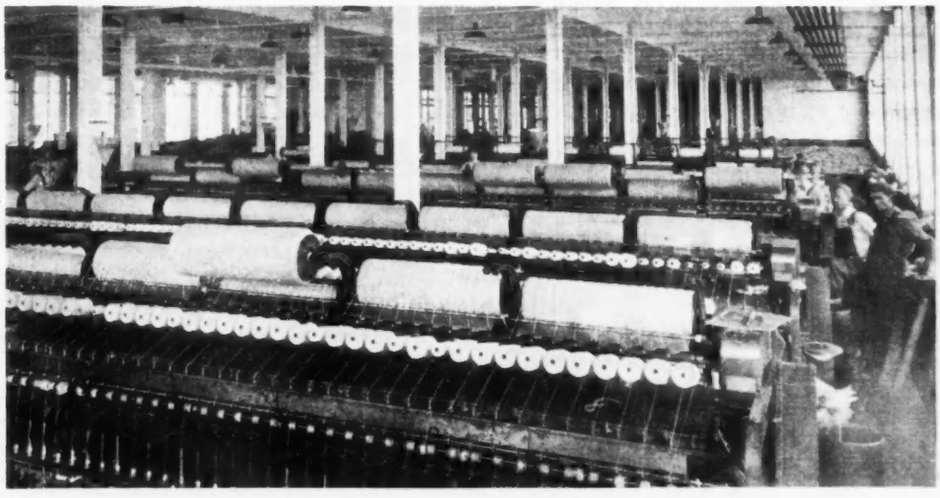
In general garnetts have been made heavier and more substantial, in order that they may run faster without sacrificing smoothness of operation. Changes in the gearing have facilitated higher speed. The hardness of



Two-cylinder breaker and finisher garnetts evolved from three-cylinder machines

*Cotton-yarn machinery was discussed July 4; and worsted-yarn machinery, Aug. 1. The next article, to appear shortly, will deal with silk throwing equipment.

garnett wire has been increased. Anti-friction bearings have been extensively adopted. Frames are now made in sections, one section for each cylinder, to allow greater flexibility in rearrangement of equipment. The larger workers, already mentioned, give greater working contact with the cylinder; and the fact that they are larger than the strippers insures that the strippers are always behind the workers in operation. Production is improved by the fact that the stock is not returned over the tops of the workers and does not remain in the machine so long.



Ring spinning is well adapted to manufacture of core yarns

One of the interesting developments demonstrated at the Boston Textile Show in the spring of 1930 was a combination of garnett and card designed to eliminate the garnetting process as a separate operation. The stock being run in the machine at that demonstration consisted of 75% old blue-serge clip and 25% white worsted hard ends, two-ply, the material having been merely rag picked and oiled. It is entirely possible, we are informed, that the use of this "garnett card" with a double-apron condenser in a woolen mill making soft shoddy yarn on five old-type sets of cards, producing 35 lb. per hour per set, will double the production per set and permit the use of harder shoddies with improvement in quality and reduction in cost. It is believed that there is a growing tendency toward the use of more garnett wire in carding than has previously been considered desirable.

Picking and Blending

Burr pickers are included in the preparatory machines which have undergone improvement in rigidity of construction and in the ease with which adjusting and cleaning are accomplished. In a modern burr picker for short-staple stock, $7\frac{3}{8}$-in. cylinders have been found more efficient, it is asserted, than a larger size, and air drafts have been improved to reduce appreciably the amount of stock knocked out with the burrs.

A new development for facilitating accurate and uniform blending consists of placing a number of feeds about a long feed apron, which delivers its load to the mixing picker. When a number of small lots of dyed stock are to be blended, this system should eliminate much variation in shade. It should also reduce labor costs very appreciably.

Mechanical oilers, operating either on the brush- or nozzle-spray principle, are extensively replacing the sprinkler can. The only special requirement for the automatic application of oil is that an emulsion suitable for the temperature of the room be used, as temperatures affect the viscosity of the oil. Of course the same emulsion can be used constantly if precautions are taken to see that the temperature does not vary.

The double-oiling system has many adherents. This consists of applying a small amount of emulsion before the first run through the picker and of adding enough before the second run to take care of carding. Precautions must of course be taken to see that too much oil is not applied in the first instance, because this will serve to attach considerable foreign matter to the fiber, which will be carried through the fearnaught to the card. One mill employing the double-oiling system on a set of two 48-in. fearnaught pickers is delivering 1,600 lb. per hour to the card bins.

Esteem for the fearnaught picker, as compared with the high-surface-speed type, seems to be on the ascendency. Two runs through a fearnaught equipped with motor drive for uniform speed and with automatic feed are declared to be superior to four runs through the regular type. The greater number of teeth on the fearnaught cylinder and the slower speed at which it moves, provide a smoother, more gentle action. It also affords a certain amount of combing, which appears to be desirab'e as preliminary to carding. In many cases studies of fearnaught pickers which have not been giving entire satisfaction have disclosed that the teeth have been broken out or bent and that other working parts have not been kept in good condition. Often the replacement of teeth or some of the minor working parts has been sufficient to put such pickers in good condition.

Condensers and Distributors

The use of a ceiling condenser between two pickers in a set makes possible a very appreciable saving in labor over feeding of the second picker by hand. It is superior also to a direct connection between the two pickers, as the dropping of the stock from the condenser onto the feed of the second picker allows a certain opening of the fiber. Since the ceiling condenser and accompanying equipment cost approximately $1,500, an installation which eliminates the service of one man, as is usually the case, will pay for itself in a year's time.

The use of a ceiling condenser in the blending or carding bin is vastly superior to blowing the stock into such a compartment haphazardly. The latter method

is extremely likely to separate the heavier material from the lighter, the former falling near to the outlet of the pipe and the latter flying to the far side of the bin.

A more elaborate device for preventing this separation of a blended stock consists of a rotating distributor placed over the outlet of the pipe. The efficiency of this device is indicated by the fact that it is being satisfactorily used for blending a mixture consisting of 80% asbestos and 20% cotton by weight—which corresponds to 80% cotton and 20% asbestos by bulk. It is asserted that in at least one instance the improvement in blending wool afforded by this rotating distributor has made possible an increased carding capacity of 9% with an improvement in the evenness of the yarn produced and a reduction in the amount of rowy goods. A large woolen mill which has replaced its bagging system between the picker and card rooms with a blowing system reports a saving of $500 per week, and it is believed that a slight additional rearrangement of equipment would considerably increase this saving.

Woolen Cards

Automatic feeds for cards have been made simpler by a reduction in the number of moving parts. They have also been made more sensitive and have been equipped with larger feed boxes. It is declared to be no longer essential that the level of stock in the feed box be kept constant. Former variations of 10 to 20% are said to be reduced to 1 to 2% by the application of a trap door above the scale.

The frames for breasts and cards proper are now generally made sectionally. Workers and fancies are constructed of aluminum for lightness. Main cylinders and fancies are supported in ball bearings. Ball and roller bearings are used at other places, including the breasts. Belt drives are frequently placed outside the frames in order that the arches may be placed close to the cylinders. In fact, arches and frames are successfully placed within $\frac{1}{16}$ in. of the cylinders, reducing air currents and tending to prevent the collection of fly. This arrangement naturally reduces the distance between the two bearings of any one cylinder or roller, with the result that wider cards can be constructed without sacrificing rigidity. Cards 72 in. in width are practical.

Compact motor drives used in conjunction with suitable clutches are being applied to cards, doing away with shipping handles and permitting station switches to be installed at convenient points. This type of drive insures a slow and steady start.

Between the cards of a set the broad-band type of intermediate feed is becoming standard, because it does away with variations of weight between sides and center, saving considerable waste. The soft, flat web, whether drawn from center or side, permits the second breaker to begin carding immediately without the necessity of first opening the stock, as when the strand is twisted in the former type of feed. Mixing and blending are improved by this device, with the result that better quality is possible. Reduction in the amount of breakage in the slubbing reduces the amount of labor required.

The advantages of the tape condenser are now so generally recognized that it is hardly necessary to pay special attention to them here. They consist mainly of an increase in production, varying from 25 to 100%, and the elimination of "tops and bottoms." Special attention has lately been given to providing deeper grooves into which lint and other waste may fall instead of getting under the tapes and stretching them.

New woolen cards have shown waste reduced from as high as 20% on older models to approximately 3% on the newer equipment. A Nielsen survey on the replacement of ten sets of 48x48-in. cards by four sets of 60x60-in. cards for the manufacture of axminster and heather carpet yarn shows an improvement in uniformity and quality, an increase in production of 15.4%, a saving in labor of 44.3%, and a reduction in floor space of 26%. The total saving in annual production cost was found to be $13,162.50, which served to return the investment in three years.

When two different colors of roving have to be fed to the mule, it is possible to prevent irregularity in the yarn by employing a roving winder, which places the two rovings on one spool.

Spinning Machinery

The fact that the success of the ring frame in largely supplanting the mule in the cotton industry is well known to woolen men has paved the way for a more cordial reception of the frame by woolen spinners than would otherwise have been the case. Nevertheless, there still exists in many quarters strong opposition to the adoption of the ring frame. Its introduction has served to stimulate efforts toward improving the mule; and there are those who believe that, even if the ring frame is showing superiority at present, the principle of the mule is basically more sound and is capable of greater development. From the viewpoint of the mechanical engineer, however, any mechanism operating intermittently is a challenge to his ability to develop equipment for doing the same thing continuously. But engineers have long criticised the intermittent motion of the flying-shuttle loom, for example; and to date they have not succeeded in supplying an adequate substitute.

Spinners who have opened their arms to the frame have many strong arguments to substantiate their choice. They point out that, from a production standpoint, one spindle of the ring frame is equivalent to approximately two of the mule. On warp yarn, employing a 3-in. ring and 9-in. traveler, they can build a yarn package weighing 6 to 7 oz., which is three to five times the size of an ordinary mule package. Another argument in favor of the ring frame is to the effect that it is capable of making a round, full, and lofty yarn entirely equivalent, and possibly superior, in smoothness and evenness to mule-spun yarn; or, if the mill chooses, it can set its deflector rod to make a lean worsted type of yarn such as is used in the worsted-type cassimere. Other arguments include the following: a draft equal to the mule can be used, a saving in floor space of from 40 to 67% can be made, left-hand twists can be changed to right-hand twists easily and quickly—and vice-versa—, a saving in labor cost amounting to 2c. per pound can be realized, a mock twist can be made easily with two spools of differently colored rovings, twist can be increased without affecting production, a core end or an end of decoration may be employed in the spinning operation, and the cost of spooling warp yarn can be reduced by the use of large packages. The latter advantage is beneficial to the weaver, burler, and mender.

The improvements made in the mule, already referred to, include more rugged spindles, made especially heavy at the point where greatest strain occurs—i.e., just above the collar. These spindles are heat treated to prevent bending, making possible, it is asserted, a speed as high as 3,500 to 4,000 r.p.m. and a gain in production of from 30 to 50%. Others *(continued on page 53)*

Increased Operation Now Warranted

in Print Cloth Mills, Executives Feel

AT a meeting of print cloth mill executives in Greenville, S. C., Thursday, many factors were pointed to as rendering the coming fall and winter as particularly opportune for revival of business activity in this important branch of the cotton manufacturing industry. Cotton mills are carrying into the new cotton year a smaller quantity of the raw product in their warehouses than at any time since 1925. Increased demand for cotton goods is typical of the fall season. It is believed that this increase will be accentuated by the phenomenally low prices for goods, reflecting the lowest cotton price in the present century. Moreover, as a result of self-restraint over a long period the print cloth mills have reduced their stocks of goods on hand to the lowest point in nearly four years.

There is a natural need for replacement after a long depression and it is realized that customers' supplies are depleted as indicated by frequent orders for rush shipments of cotton goods of this kind. Despite unfavorable business conditions, the sale of print cloths for the first half of 1931 showed a 33% increase over the same period in 1930 and the attitude of mill executives at the Greenville meeting is taken as indicating confidence in continued and increased use of their goods. In short, the manufacturers feel that by wise moderation in their operating policies and intelligent exploitation of qualities and uses of cotton they have made substantial progress in putting their affairs to rights and are now in a position to capitalize on these achievements.

In making public this announcement, George A. Sloan, president of the Cotton-Textile Institute, who presided at the meeting, stated that 12,000,000 people in the United States are dependent upon cotton farming and manufacturing. Mr. Sloan went on to state:

"Cotton manufacturing employs more people than any other manufacturing industry in the country. Since the print-cloth section is its largest branch, increased demand for these cotton fabrics would tend to alleviate the employment situation in many mill centers and accelerate the consumption of raw cotton. The public benefits are obvious.

"It was clearly indicated in today's discussion that the print cloth mill executives will continue to observe the principle of balancing supply with demand which has been so helpful in bringing about the present favorable statistical position. Moreover the print cloth mills will continue to observe the two industry-wide reforms recently put into effect. These measures provide for maximum working schedules of 55 hours on the day shift and 50 hours on the night shift, where mills still work at night, and the discontinuance of night employment of women and minors."

By resolution these principles were unanimously endorsed. Over 50,000 print cloth looms were represented at the meeting.

THERE is increasing evidence that the textile industry is gradually getting itself into a position where it and its workers can capitalize on the many constructive moves undertaken in recent years.

One such indication was the attitude expressed at the meeting of print cloth manufacturers at Greenville Thursday.

After many months when curtailment was necessarily the watch-word, it is refreshing to learn that executives in that branch of the industry feel that an increased rate of operation is warranted—for the near future at least.

The arguments advanced as the basis of this opinion appear to be sound. The favorable balance between supply and demand created by sane action in the past; the low price of cotton with its corollary impetus to consumption of cotton products; the tremendous consumer demand for replacement of textiles—all point to more than seasonal expansion of business to be done on these goods.

After every depression, so-called "consumer" goods such as textiles, shoes, etc., start the upward trend. There is a limit to the length of time a man or woman can go without replenishing his or her wardrobe. This fact has been reflected this year in both cotton goods and wool goods.

Unfortunately, there is one major doubtful factor. In past depressions, improvement in demand for "consumer" goods has been rather quickly followed and sustained by a pick-up in general manufacturing and construction fields. Such a development is not yet clearly in sight, according to the views of most students of the situation. Consequently it is possible that the textile expansion may be checked by this lack of general support.

However, there is every reason to believe that print cloth manufacturers, as well as executives in other branches of the industry, have learned their lesson and will not again commit the folly of allowing production to run wild. It is to be hoped, and expected, that they will watch the supply-demand "barometer" closely—and will decrease operations at the first sign of danger. It is also to be hoped—and this cannot be emphasized too strongly—that they will run their mills only on business which shows a fair profit—and that they will not be frightened by temporary "dips" in demand, into another orgy of suicidal price-cutting.

The print cloth mills have a fine opportunity to demonstrate whether or not the textile industry really is going some place.—EDITOR.

Practical Points on Handling and Storing Coal

By Charles L. Hubbard

HANDLING and storage of coal are important details which should receive careful consideration in connection with the mill power plant. That the problem does not offer a simple solution is shown by the almost endless combinations found in practice for the same operating conditions. The principal factors influencing the choice of a system are size and location of plant, and the cost of fuel and labor. Owing to the growing expense of the last two items and the higher rates of combustion employed, stokers and coal-handling machinery are now used even in the smaller plants.

Before any definite types of equipment are considered, the general situation should be looked over, and the maximum quantity of coal it is desired to store at one time decided upon. This quantity will, of course, depend upon certain local conditions, among which the most important are the certainty of regular delivery, storage space, and the ability to buy fuel at reduced rates during certain seasons of the year.

Methods Employed

The arrangement for storage will depend largely upon whether the boilers are hand or stoker fired, although the layout may be practically the same for each in plants of small size. With hand firing, the coal is usually delivered by car or truck to storage bins at the boiler-room level, from which it may be fired directly into the furnaces or brought to the fire room in steel hand cars running on tracks or overhead trolleys. When stokers are employed, it is the general custom to provide overhead bins from which the coal may be delivered, without handling, directly to the stoker hoppers through chutes. Large quantities of coal which are beyond the capacity of the bunkers, are usually piled out-of-doors in some place convenient to the boiler room.

While there is a great variety of special equipment on the market for handling coal, the types most commonly employed are as follows: (1) Hand shovels; (2) wheelbarrows or hand cars; (3) continuous conveyors, such as screw, scraper or flights, buckets, and endless belt; (4) hoist, combined with hand car, cable car, and trolley; (5) clamshell buckets; and (6) combinations of the above-mentioned equipment.

When the coal and ashes are shoveled by hand, one man can care for about 200 hp. of boilers. If the plant is equipped with hand stokers or shaking and dumping grates, a man can handle 300 hp.; and if automatic stokers are provided, 800 hp. These estimates are based on a good quality of coal, with a moderate percentage of ash, and one which does not clinker badly.

If the coal cannot be dumped directly in front of the boilers, and must be hauled over 50 ft. in a hand car or wheelbarrows, mechanical conveyors should be considered where the consumption is over 10 tons per day. Continuous conveyors are most commonly used for this purpose, and are of four general types: (1) screw conveyors, (2) those which push or pull the material in a trough, (3) belt conveyors, and (4) those which carry the coal in buckets of various forms attached to endless chains.

The screw or spiral type of conveyor is limited to short distances; and while compact and low in first cost, is subject to excessive wear and has a high power consumption. Scraper or flight conveyors are adapted more particularly to horizontal work, but will operate satisfactorily at reduced loads up to about 30° incline. For crushed bituminous coal and sized anthracite these conveyors are built in sizes to handle a maximum of about 100 tons per hour for distances of 200 to 300 ft. Single-strand conveyors of this type should be used only in short lengths and for light duty. The capacity in any given case depends upon the size and speed of the flights.

The pan or V-bucket conveyor is a popular type in larger plants, and is so constructed that the buckets carrying the coal remain in an upright position regardless of whether they are moving horizontally, vertically, or on an incline. The length of bucket conveyors is limited by the strength of the chain, and they are not usually built for distances exceeding 500 ft. and lifts of over 100 ft. A standard conveyor of this type is made in sizes hav-

◆

Choice of a system for handling and storing coal depends largely on size and location of the mill, and cost of fuel and labor. In the accompanying article the author describes types of equipment and methods recommended for various plant conditions. He then suggests the best practice in storing coal and outlines precautions necessary to avoid spontaneous combustion.

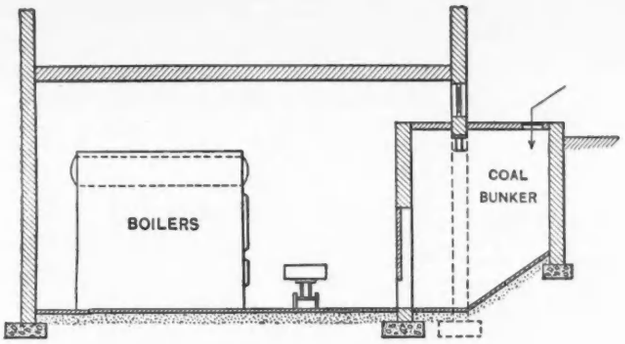


Fig. 1. Simple arrangement for storing coal in front of the boilers

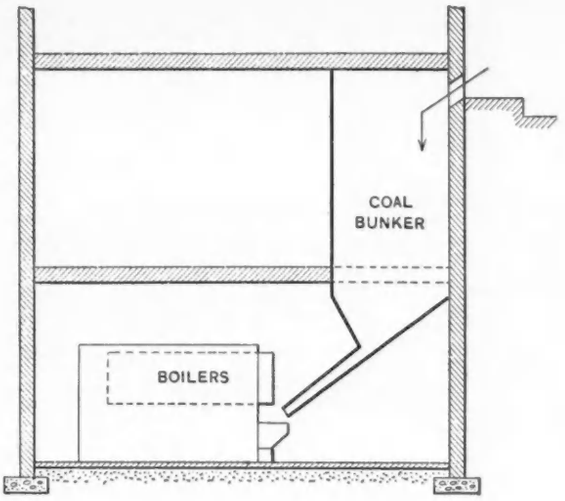


Fig. 2. Boiler room arrangement with overhead coal bunkers

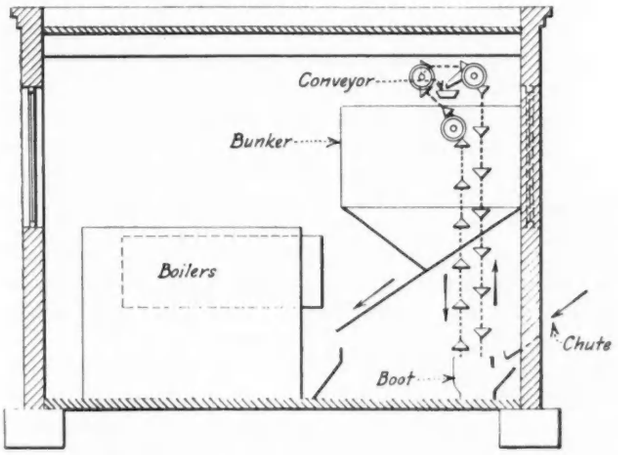


Fig. 3. Arrangement of bucket elevator and horizontal conveyor

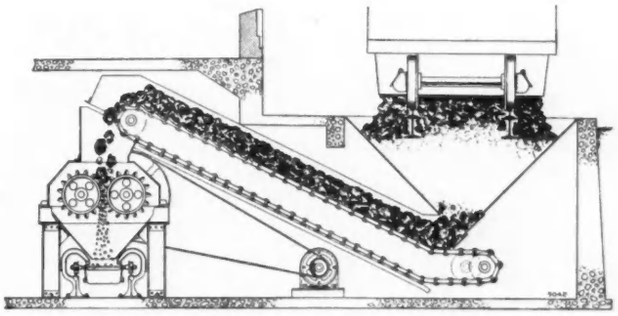


Fig. 4. Operation of track hopper, apron conveyor and crusher

ing capacities, at normal speeds, running from 15 to 200 tons per hour.

Apron conveyors are modifications of the bucket type, being made up of shallow pans so hinged together as to form an endless chain. They are used principally for moving coal from track hoppers to the main conveyors. This type, however, is not suitable for use where the inclination is over 30°. Belt conveyors, made of cotton duck and rubber, are quite common; and where they can be used, have the advantage of being driven from any point in their length. Conveyors of this type may be operated in lengths up to about 1,000 ft. and on a maximum incline of 20° Belt conveyors are also made of steel, and can be obtained in various widths and in single lengths up to about 300 ft.

Another handling system consists of a tower and track, either vertical or inclined, on which is operated a skip or bucket, which dumps directly into hoppers or cars. The cars are pushed by hand or automatically transferred by cable to the required dumping place.

Trolley carriers are frequently employed to transport coal from railroad cars to storage piles and then to the boiler room, or directly from the cars to the coal bunker. With an installation of this type, the coal car is placed over the track hopper and unloaded into it. The coal is next discharged through an undercut gate into the hoisting bucket, then raised and carried by trolley to the disposal point. A carrier of this kind has a capacity of 15 to 40 tons per hour.

A method which often is satisfactory for transferring coal from the storage bin or pile to the boilers makes use of a monorail track, a hoist and trolley, and a coal bucket. In some instances, the bucket is carried on the monorail and is pushed from the point of loading to the stoker hopper by hand, the bucket being hoisted to the traveling position by means of a chain block. This arrangement is suitable for plants where the fuel consumption is not heavy and the coal can easily be handled from the bin to the boilers. For larger plants the same general type of equipment can be operated electrically.

Many plants are of such capacity that, while it pays to store a considerable quantity of fuel against a possible shortage, it would not be a profitable investment to install an expensive coal-handling system. For cases of this kind, there are several designs of portable conveyors which permit moving coal from a railroad car to the storage pile in the boiler-house yard.

Another piece of equipment which often works in to the best advantage is the long-radius locomotive crane furnished with a clamshell or self-filling grab bucket. These cranes are self propelled, and may either run on rails or be equipped with caterpillar tractors, thus making them independent as regards direction of movement. With this arrangement the coal may be taken either from the cars or the track hopper into which it has been dumped, and delivered to the storage bin or outside pile, as the case may be. When desired for use, coal is taken from the pile by the crane and again dumped into the hopper. From the hopper it is taken by the conveyor and delivered to overhead bins in the boiler house, or to any other desired point.

There are many different plant arrangements in use,

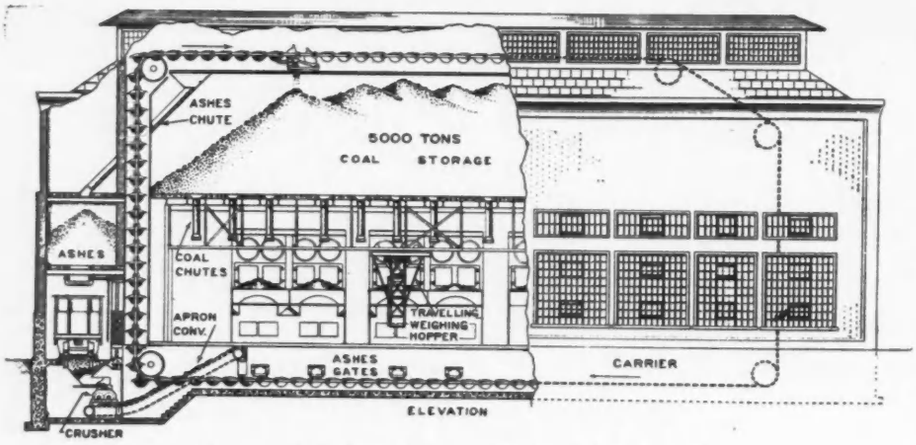


Fig. 5. Coal-handling outfit for a large plant

depending upon size and various local conditions. A typical layout for a hand-fired plant, where bunker space is limited and coal is delivered at fairly frequent intervals, is shown in Fig. 1. This same arrangement may also be used in connection with an outside storage pile, the coal being brought in trucks or handled by a crane and grab bucket. In some cases it may be possible to make use of a side track and to unload directly from the cars into the bunkers.

In Fig. 2 is shown an arrangement whereby the coal is delivered to overhead bunkers and fed to the stokers by gravity through chutes. The method of getting the coal into the bunkers will vary; in some cases an incline and trestle may make it possible to reach them with trucks or cars, while in other cases some form of elevating equipment will be necessary, as in Fig. 3. In this case the coal is dumped into a chute at grade level, either directly from railroad cars, trucks, cranes, etc., as conditions may indicate. It then falls into the boot of the bucket elevator which lifts it to the top of the building and discharges it into a horizontal conveyor for distribution to the different bunkers.

A typical method of transferring coal from railroad cars to a bucket or flight conveyor, is shown in Fig. 4. In this arrangement the coal is dumped from the car into a track hopper, from which it is carried by means of an apron conveyor to a crusher. The crusher, in turn, discharges into the main conveyor which carries the coal to the storage bins in the boiler house. A complete outfit of this general type is illustrated in Fig. 5.

Handling of Ashes

As the weight of the ash to be handled is not usually more than 10 to 12% of that of the coal, it is frequently cheaper to handle it by manual labor, even in plants where it is advisable to install mechanical equipment for the coal. A convenient method for removing ashes in a plant of medium size is by means of a skip hoist. In this case the ashes are dumped from the boiler pits into a hand car, and from here into a skip bucket which raises and discharges them into an overhead bin for later removal. The bucket elevator, shown in Fig. 3, may also be used in a similar manner.

While the same equipment is frequently employed for handling both coal and ashes (as shown in Fig. 5), it is usually considered best practice in plants of larger size to install separate machinery for the latter. One of the most modern systems developed for the removal of ashes operates on the vacuum principle, the furnace refuse being drawn into cast-iron pipes by suction and discharged into an overhead bin. The vacuum required for this work may be produced by fans, rotary exhausters, or steam jets.

Storage of Coal

Among the more common types of equipment for storing coal outside are included the locomotive crane, drag scrapers, and portable conveyors. The first of these takes the coal directly from the cars or track hopper, piles it as indicated in Fig. 6, and reclaims it in a similar manner, except in the reverse direction. The power or drag scraper is simple in construction, reasonable in cost, both as regards installation and operation. This system is adapted to plants of all sizes. By its use, irregular areas adjacent to the boiler house are made accessible for storage purposes. The scraper drags the coal from the initial pile near the car in any desired direction, and distributes it in layers over the entire area, forming a neat pile of any required height. For reclaiming, the operation is simply reversed, and the coal is dragged to the desired point, whence it can be delivered to the boiler room or reloaded into trucks or small cars.

The portable conveyor or unloader is particularly adapted to the small plant. As a means of handling coal from track hopper to push cars or stock pile, or to boiler room, it gives very satisfactory results. It is easily moved from place to place, is self contained, and requires but little power for its operation.

Weathering

The deterioration which takes place when coal is stored for some time before using, called "weathering," is due to oxidation. In other words, it is a slow form of combustion. The loss due to weathering depends somewhat upon the composition of the coal and the length of

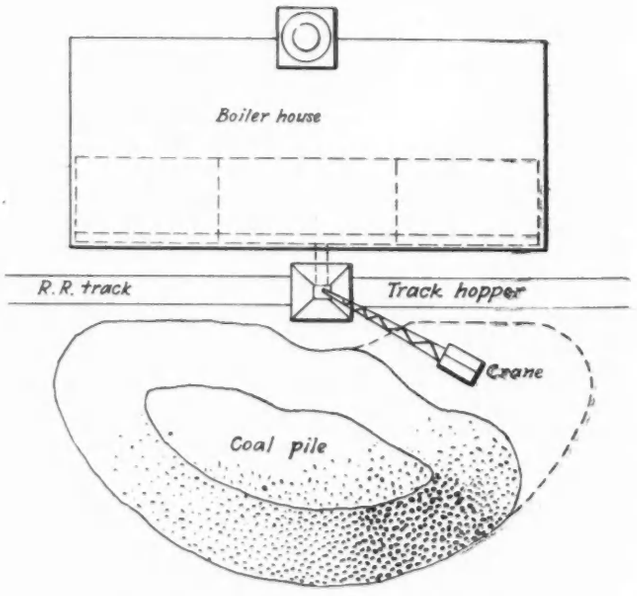


Fig. 6. Method of piling coal with a locomotive crane

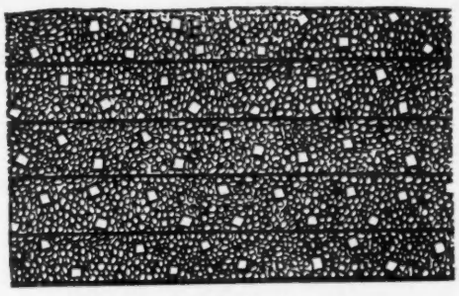


Fig. 8. Method of packing in layers to prevent heating

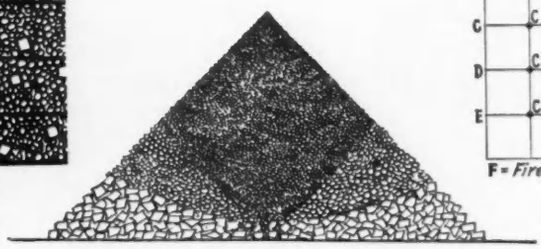


Fig. 7. Natural arrangement of coal when piled from a single point

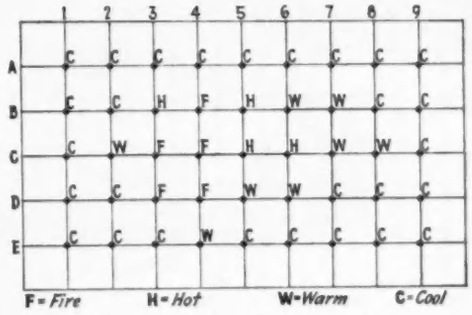


Fig. 9. Chart for recording temperature condition of coal pile

exposure—those varieties high in volatile matter being more susceptible. Experience shows this loss to ordinarily run from 3 to 10%, according to the conditions noted above.

The chief difficulty in storing coal in large quantities is the danger from spontaneous combustion, the absorption of oxygen in this case being sufficiently rapid to start actual combustion. Some coals are more susceptible to this action than others. Most easily oxidized are those which crumble upon exposure to the air and in handling: run-of-mine, where lumps of all sizes are mixed together; and slack. Newly mixed coal is more likely to give trouble in this way than that which has been exposed to the atmosphere for some time. Also, coals from different mines, if stored together, may give trouble where they join; therefore it is usually best to place only one kind in each pile. For general convenience and security, the best coal to store is egg size, which has passed through a 6-in. and over a 1½-in. screen. This size is suitable for most purposes, is easy to move, free from fine stuff, and does not break excessively in handling.

Among the general precautions to be taken in piling coal are to select a dry location for the pile, and to store the coal when it is cool as possible. Piling warm coal from a steel car which has been standing in the sun on a hot day is bad practice. Alternate wetting and drying during piling should also be guarded against. If it is not possible to avoid these practices, the coal should be more carefully watched afterward.

Prevention of Heating

Two general methods which are practically the opposite of one another are employed in piling coal for the prevention of heating. In one case, air is excluded to prevent oxidation; and in the other, air is given free circulation, so as to carry away the heat, as generated, and prevent too great a rise in temperature.

The general effect of dropping mixed coal upon a pile from a single point is illustrated in Fig. 7. It will be seen that the coarser pieces roll down on the outside, leaving the fine coal at the center. The result is a pile with coarse lumps around the base and part way up the slope, fine coal at the center, and a zone part way up where the two meet and mix to some extent. The danger points are in this zone, or one-half to two-thirds the way up the slope, where the spaces between the coarse lumps are partially filled with fine coal, leaving room for sufficient air to enter and produce slow oxidation, but not enough to carry away the heat as it is generated. This condition permits a gradual rise in temperature until actual combustion finally takes place.

At the bottom of the pile there is sufficient room for free circulation between the lumps, while air is practically excluded from the central and upper portions of the pile. In order to eliminate the danger zone as much as possible, coal of a uniform size should be used or mixed sizes piled in layers, as shown in Fig. 8.

While coal is sometimes piled to a height of 25 ft. or more, it is usually best to limit this to about 12 ft. for ordinary storage. A high pile crushes the lower layers and also decreases the ratio between the cooling surface and the heat generating capacity.

Watching the Coal Pile

No matter how much care has been exercised in selecting and piling coal, the temperature must be carefully watched afterward. It is common practice to block off the pile into 15- or 20-ft. squares, and to draw a corresponding chart as indicated in Fig. 9, numbering and lettering the rows for identification. At each intersection point a ½- or ¾-in. pipe, flattened at the lower end, should be driven down to within 3 or 4 ft. of the bottom of the pile. This pipe should be of sufficient length to extend about 2 ft. above the surface. Each pipe, or row, should be tagged to correspond with the chart.

A survey of the pile should be made every three to five days for the first three months after the coal has been stored, and the temperature taken at different depths at each point by lowering a maximum-recording thermometer into the pipe. At the end of this time readings should be taken once a week or so, until there is no further tendency to heating. In recording the readings, it is customary to indicate the general conditions found by the letters *C, W, H* and *F*, which mean *cool, warm, hot* and *fire*, respectively. If any portion of the pile reaches a temperature of 140 to 150° F., provision should be made for active measures to prevent fire, although the actual work is not usually begun until the temperature has reached 170 to 180° F.

The means employed for checking a rise in temperature will depend upon the extent of the warm area and the urgency of the case. For moderate conditions, driving down perforated 1½-in. pipes, flattened at the lower end, will sometimes check the trouble by carrying off sufficient heat to reduce the temperature below the point of active oxidation. For more severe cases the coal should be spread out so as to lower the depth of the pile to about 6 ft. and a trench dug around the hot area to separate it from the remainder of the pile. When more drastic measures are necessary, the coal must be removed from the entire section giving trouble and either piled in a new location or burned under the boilers.

Textile Foundation Starts Wool Goods Industry Survey

A SURVEY of the wool goods industry which has as its chief aim the gathering of data that will be the basis of a program of constructive suggestions on distribution, will be conducted by the Textile Foundation. The project is in charge of Paul T. Cherington, textile marketing counsellor, who is well known through his work in various universities and through his book on the economics of the wool industry, which has become a standard work. Similar studies to be undertaken later by the Foundation will cover the cotton, silk and rayon industries.

Mr. Cherington outlined the scope of the wool goods survey for TEXTILE WORLD this week. He looks for cooperation from both individual companies and trade associations in assembling the necessary material. The study will concern itself mainly with selling. Wool machinery will be considered only as it bears upon that aspect; for example, if data discloses that the industry has a substantial percentage of equipment which cannot be kept busy profitably, such a development would be considered because of its relation to surplus stocks. The study also will cover new uses for wool goods and expansion of present outlets.

Mr. Cherington said prices would receive close attention; he added that "this is a particularly difficult question for which there is no complete solution, though I am hopeful that some phases of the price situation may be clarified."

Commenting upon the survey as a whole, Mr. Cherington said:

"The solution for the problems of the wool goods industry does not lie in the hands of any one man. Our survey can do much to help, but it will not be a panacea. My main idea is to get a clear picture of wool goods merchandising and its relation to the consumer and from that evolve some concrete suggestions for improvement. Of course, an outsider like myself cannot come into an old-established industry such as this and immediately tell the trade how to get rich tomorrow and how to solve difficult problems. But we can make suggestions which will point the way toward improvement."

As visualized by the director, the survey will try to get three main things from the trade: first, facts; second, opinions; and third, reasoned conclusions. He believes that faulty reasoning and crooked thinking in salesmanship are due not to bad facts or unsound opinions, but to confusing facts with opinions. The survey will use facts, opinions and conclusions regarding current conditions in the trade and will keep each group separate.

This survey is particularly significant to the textile industry as it is the first of the kind undertaken by the Textile Foundation. The foundation, as is known, has been financed by Textile Alliance funds and is administered by a board of directors. In the following abstract of a letter to Franklin W. Hobbs, president of Arlington Mills, who is chairman of the Foundation directorate, Mr. Cherington gives a concrete picture of the fundamental purpose of the wool goods survey:

"The main purpose of the study of distribution problems for the woolen and worsted industries to be undertaken for the Textile Foundation, includes such points as: Where do the goods go after entering into commerce? And why? What uses are they put to? How do they reach the consumer? Where are the goods sold in successive steps and finally?

"This I take it is quite in harmony with some of the later sections of the outline I submitted to you on May 6, 1931, except that this is to apply to woolens and worsteds alone—a least for the present. In order to be sure that we have the same idea in mind I am repeating the pertinent sections of the outline as submitted at that time.

1. Consumption problems which disturb the distribution operations. Styles, and fashions, living habits and buying habits—Ready to wear.
2. The mechanism of woolen and worsted distribution—cutting trades, department stores, specialty shops.
3. The factors which are not subject to betterment.
4. The factors which may be materially improved.
5. The points of control and the methods of control in textile marketing.
6. Joint action and individual action in the betterment of distribution of textiles.
7. A program for improvement.

"It is my understanding that the final report is to be in the nature of a useful working document, rather than a detailed or exhaustive survey. In this connection, I should like to make it clear that it is my conception that it would be desirable, in the survey, and in the final report, to draw as definite conclusions as possible from the facts as developed, and not stop with merely a descriptive analysis."

Mr. Cherington is now organizing his staff for the project and expects concrete work to start shortly. He did not know when the survey would be completed but said it would not be before spring, 1932.

Full-Fashioned Hosiery Study

Shows Stock Position Improved

Table I.—Estimate of Stock of Women's Full-Fashioned Hosiery on Hand at Manufacturing Establishments*

Year and Month	Changes in Stock During the Month Per Cent	Changes in Stock During the Month Dozen Pairs	Estimated Total Stock (End of Month) Dozen Pairs
Dec., 1930	.....	.....	4,120,127†
Jan., 1931	+4.9	+201,886	4,322,013
Feb., 1931	—1.7	— 73,474	4,248,539
Mar., 1931	—6.6	—280,404	3,968,135
Apr., 1931	— .8	— 31,745	3,936,390
May, 1931	—3.7	—145,646	3,790,744
June, 1931	+ .7	+ 26,535	3,817,279

* Based upon monthly reports of the United States Department of Commerce.

† From Hosiery Release Number 2, published by the Industrial Research Department, May 13, 1931.

Table II.—Stock on Hand Classified by Type of Material—1931

Type of Material	Percentage of Total Stock Identical Firms Jan. 1	Identical Firms June 30	All Reports June 30
Tram Silk	64.8	43.8	43.1
Hard Twist Silk	26.0	49.3	49.8
Silk Ingrain	.6	.5	1.4
Rayon	...	...	3.9*
Other Types	8.6	6.4	1.8
Total	100.0	100.0	100.0
Total Dozen Pairs	2,579,003	2,461,523	3,160,843

* Included in "Other Types of Material" in the January 1 survey.

Table III.—Percentage of Total Stock Represented by Specified Gauges Compared with Distribution of Hosiery Knitting Machines by Gauge, 1931

Gauge	Percentage of Total Stock Identical Firms Jan. 1	Identical Firms June 30	All Reports June 30‡	Percentage of Machines by Gauge—March*
36 and under	3.0	2.4	1.9	1.6
39	15.4	10.9	11.1	16.0
42	56.7	56.8	56.6	47.0
45	19.9	24.4	24.7	28.0
48	4.6	5.0	4.8	7.0
51	.4	.5	.9	.3
54 and 57	†	†	†	.1
Total	100.0	100.0	100.0	100.0
Total dozen pairs	2,893,985	2,628,985	3,306,095	
No gauge specified			125,156	
Total dozen Pairs Reported			3,431,251	
Total machines				16,400

* From Statistical Folder of Textile Machine Works issued in March, 1931.

† Less than one-tenth of one per cent

‡ The slight differences in percentages in this column as compared with the preceding column is because of the different totals used.

Group of significant tables taken from Wharton School study of hosiery industry

FULL-FASHIONED stocks and output for the first half of 1931 are shown to be in an improved position as regards their ratio to sales, in a final report made public by the Industrial Research Department, Wharton School of Finance and Commerce, University of Pennsylvania, covering the recent survey made of full-fashioned stocks in the hosiery industry, in co-operation with the National Association of Hosiery and Underwear Manufacturers. The report states:

"During the first half of 1931 production of full-fashioned hosiery was 17% below the output of the same period in 1929, and 15.4% below the same period in 1930. Firms that provided data for June, 1931, showed a production estimated at 66% of capacity. These companies presumably represented a large sample of total output since they reported a June production of 1,604,745 doz. pairs." Table I indicates a decrease in stocks in the first half of 1931 of 7.4%.

The above figures are particularly significant inasmuch as Department of Commerce data shows full-fashioned hosiery demand to have fluctuated little since 1929. However, the drop in prices may have been an important factor in maintaining demand, the report points out.

The full-fashioned hosiery stocks totalled more than 3,400,000 dozen pairs as of June 30, exclusive of some establishments which did not report. Rough estimates of stocks in the non-reporting units bring the grand total to about 3,900,000 dozen.

The report analyzes the stock by gauges and this section offers an interesting light on gauge trend. Of more than 3,400,000 dozen pairs, 54.5% was 42-gauge hosiery while 23.8% was 45-gauge. Identical firms reporting in the preceding study as of Jan. 1 and in the current study as of June 30, decreased their stocks of 39-gauge hosiery from 15.4% to 10.9% and increased their proportionate holdings of 45-gauge from 19.9% to 24.4% of total. "This change" the report comments, "was the only major shift in the gauges of stockings during the first six months of 1931."

The report also analyzes stocks by type of yarn, and the variation between tram silk and high twist silk reflected the trend to the latter. At the beginning of the year nearly 65% of stock was represented by tram silk hosiery; by June 30 this had fallen to 44%. Although total stocks were decreased only 9% from January to June, tram silk stocks fell 36% during the same period while high twist hosiery stocks increased more than 80%.

The important position now occupied by high twist yarn in full-fashioned hosiery production is illustrated in the following notation: "On June 30 the high twist represented almost one half of the total stock contrasting to Jan. 1 when this stock represented about one fourth of the total." The investigators interpreted this to mean that "the so-called low-end merchandise in stock is being rep'aced by better goods."

Bearing upon the chiffon, semi-service weight and service weight stocks, the report states:

"No significant changes occurred from January to June in the percentages of total stock represented by these various types. Of 3,280,193 dozen pairs of hosiery for which data relating to weight of thread were secured as of June 30, 57.4% was chiffon hosiery, that is hosiery knit with silk having from 2 to 5 threads. Semi-service weight hosiery, or from 6- to 8-thread silk, represented 32% of the June stock, while service weight hosiery, of 9-thread silk or over, and other types of material each accounted for 5.3% of the total stock."

With respect to obsoletes and irregulars, the report comments that "the large supply of irregulars in stock on Jan. 1 made any trade-up policy difficult"; and adds:

"It is therefore important to note a decrease in stock of obsolete and irregular merchandise of 31.3% from January to June. While 12.1% of the total stock on Jan. 1 was represented by obsoletes and irregulars, these numbers composed but 9.1% of the June stock."

Hosiery production for the month of June, 1931, totalled 1,604,745 dozen pairs, of which 7.2% or 115,963 dozen pairs was mesh hosiery. Mesh stock reported June 30 totalled 10,101,828; unfilled orders totalled 57,967.

"While the ratio of unfilled orders to stock for this type of hosiery was 56.9% and although stock was somewhat less than the total production of June, mesh hosiery stocks embody a relatively large element of risk due to the possibility of style change."

Orderly System of Color

Again Available to Dyers and Colorists

By Alois Maerz

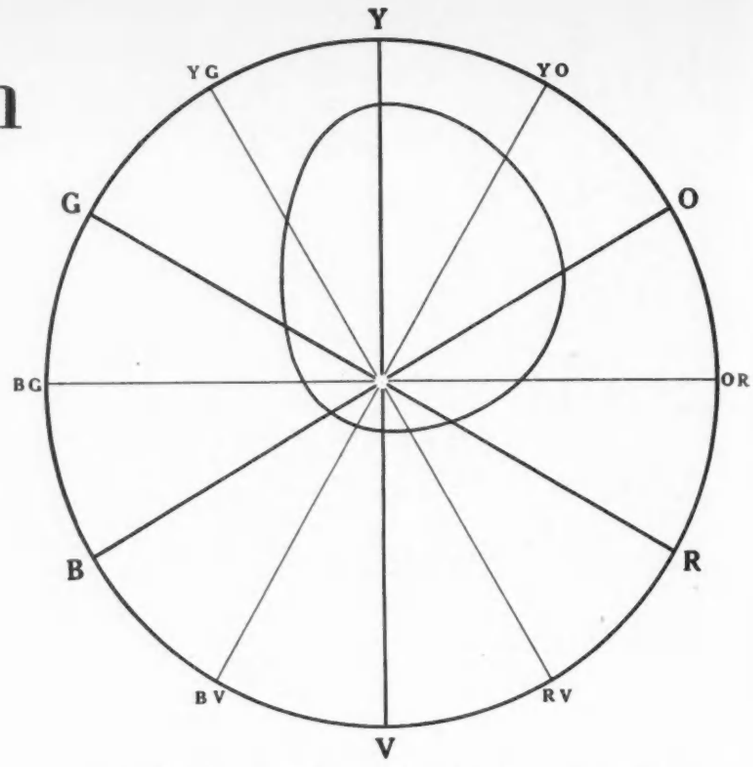


Fig. 2. Pigmental color circle. Ovoid curve represents relative values of textile colors of full brightness, the circumference being taken as 100% reflection, or white.

◆ *A systematic method of color mixing, employed by the master dyers of the eighteenth century and lost sight of in the rapid advances in the art of dyeing, has been rediscovered and put to use. In the "Dictionary of Color" over 7,000 different and permanent color samples, arranged in orderly groups, were reproduced with eight hues. Alois Maerz, co-author of this dictionary, and authority on color standardization and nomenclature, explains in the accompanying article how the textile dyer and colorist of today can avail himself of the benefits of this orderly system of color mixing which makes it possible to match the entire spectrum range with a comparatively few dyestuffs of each class.*

EVIDENCE is available that the entire spectrum range plus the purples can be satisfactorily matched with eight hues. Commercial considerations in the dyehouse do not require that the number be kept as low, and twelve or eighteen colors of each class can as easily be used as eight. In many instances twelve would be sufficient. An amplification of these statements which were expressed in a previous article (TEXTILE WORLD, Jan. 31, 1931) will show more clearly the way in which an orderly system of color mixing makes it possible to produce all desired shades with a comparatively small number of dyestuffs.

Brown Is Orange

It is a peculiarity of nature that the colors on the warm half of the spectrum, when they are pale, and especially when they are dark, are difficult to classify as to hue, and present the greatest difficulties in matching, particularly in their grayed tones. The worst region is that of the yellows and oranges, where so much do they alter, that from the most ancient times a special name has been given to this class of colors—in many languages, brown. In fact, there are many people who do not know that brown is merely a darkened orange, but believe that it is a "separate" color, whereas they never think of dark or light blue as anything but blue.

In producing grayed tones of colors, the use of red, yellow, and blue mixtures is frequently looked upon as the height of systemization. In reality, the method is a limited and far from easy one. It arose, as a system, in the early nineteenth century, initiated by the researches of the physicists of the period, and was popularized by the writings of Hay, Field, and others.

The reason for the use of red, yellow, and blue in mixtures is that they constitute a balance of the primaries (the pigmental, not the optical, primaries). An exact balance produces neutral grays; when the balance is intentionally upset in any desired direction, a colored gray—or a grayed color—is produced. But, exactly the same result can be reached by taking a bright color of the correct hue and toning it down with a neutral gray or a pigmental complementary.

Limitation of Primaries

The limitation of the red-yellow-blue mixture is that only quite grayed intermediates are possible, the successful use of the method demanding that the three primaries start in being themselves of distinctly gray tone. This is demanded because red, yellow, and blue are so far apart from one another that a very small change in the amount of any one contained in the mixture causes a perceptible alteration in the result. If the three primaries are pure and bright to start with, the amount of change that will alter the result is so minute, that the utmost precision in the relative proportions is required. And even then the desired result can easily be thrown off by such unforeseen things as a minute change of texture caused by a slight variation in the size of warp threads, or a difference in the position of the fibers in the threads. Hence primaries of comparatively gray tone are an absolute necessity.

A further difficulty is caused by the character of the

red, the yellow, and the blue; and the utmost care is needed in their choice. A certain selection of red, yellow, and blue dyes might produce a true neutral gray mixture when viewed in one light, which in another light would take on a distinct tone of hue. This fact is not always understood, and brings about results which are bewildering to the unskilled colorist, and which he finds himself unable to correct.

With primaries of the customary three-color mixture character, when any two are mixed, the resultant intermediate is quite dull. Thus a blue and yellow produces a dull and lifeless green; when this green is laid alongside a good bright green, it always astonishes those unexperienced in the mixture of colors (who have been taught that blue and yellow make green) to see how poor a green is produced. Fig. 1 represents a spectrum reflection curve of such a mixture; the amount of green left is seen to be very small, and further, it is diluted because of reflection across the entire spectrum, adding some white, and is darkened by absorption across the entire spectrum, adding in effect some gray.

Orderly System

This method was not used by the dyers of the seventeenth and eighteenth centuries, except only and occasionally for tapestry worsteds. They used instead another method, the toning down of chosen hues by gray, which they produced with logwood. Logwood still has a restricted use, for while not as fast as some of the aniline and chrome blacks, many dyers assert that it is unequaled in the perfection of black obtained. However that may be, new coal-tar blacks and grays are continually being offered, and if more or better ones are needed, they will be forthcoming from the dye manufacturers. Hence, it should be possible again to take up this method, which is indeed the perfection of system, and develop it to fullest extent for application of colors to textiles.

In the first place, with the wealth of dyes available,

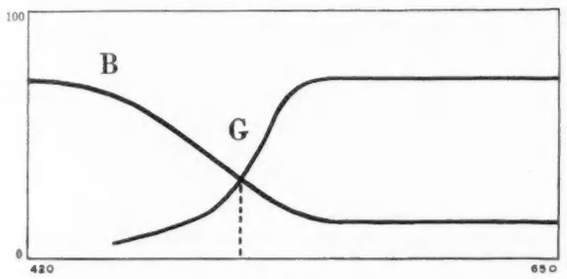


Fig. 1. Spectrum reflection curves showing dull green resulting from mixture of yellow and greenish-blue in customary red-yellow-blue set. Vertical: equal division percentage scale. Horizontal: spectrum wave lengths in millimicrons.

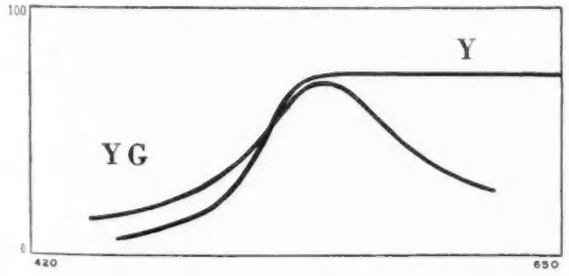


Fig. 3. Spectrum reflection curves showing bright intermediates resulting from mixtures of yellow and yellow-green in twelve-color series. Vertical: equal division percentage scale. Horizontal: spectrum wave lengths in millimicrons.

it would be folly to limit ourselves to three. If the one extreme of too many dyes is a fault, the other extreme of too few is no less a one. Secondly, while devising a system, it may as well be made to serve, not only for the mixing of grayed colors, but for ungrayed, bright ones as well.

Color Circle

In Fig. 2 is shown a color circle, built up of twelve colors, namely: yellow, yellow-orange, orange, orange-red, red, red-violet, violet, blue-violet, blue, blue-green, green, and yellow-green. The number of colors to be used for the mixture of acceptable hues in the complete color cycle is, of course, an arbitrary matter of choice. In some cases the blue-violet could be eliminated to advantage; in other cases other hues may be needed. It is needless to say that in mixtures of dyestuffs, those which are chemically compatible are essential. In the event that twelve hues are employed, if any of the twelve is missing (as will be found in some classes of dyes), the nearest hue will have to be used.

In order to produce a pure, bright intermediate shade, colors not far on each side must be used, and the closer they are, the better the intermediate. Fig. 3 represents a spectrum reflection curve of two colors at the spacing in this series, yellow and yellow-green. It is apparent that the intermediate colors are obtained with the purity and value of the originals.

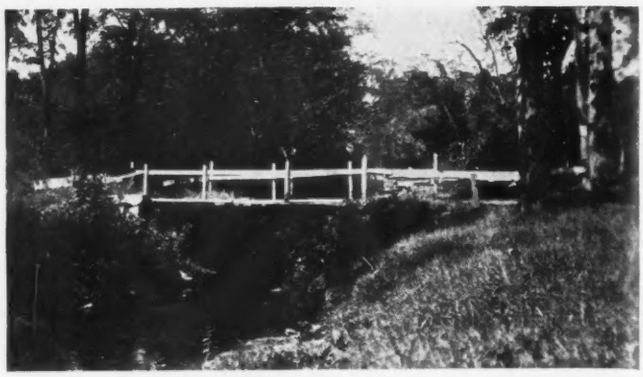
If dyes are used which are non-dichroic and which do not shift in hue as they are lightened, this being a matter of proper selection, we are thus able to dye any hue in the complete color circle; and if charts of the mixing powers of the dyes are made, this becomes of the utmost simplicity. To produce any grayed color needs only the addition of black or gray in proper amount—again a simple matter by use of mixing chart—to the proper hue.

If, in certain cases, the use of black or gray is not practical for chemical reasons, the pigmental complementary can be used to tone down a color, the proper complementary being shown in an ordinary color circle, as in Fig. 2. Two sets of this series would be advisable, the first of full purity, the second of about one-quarter grayness. For if dark or considerably grayed colors are wanted, it would not be good business to start with high-priced brilliant dyes, and pull them way down with gray, when lower priced dyes already partly grayed in tone could be used. And sets of each of the classes of dyes would be required, according to material, etc. Of course, in vat dyes a complete range of colors of high purity are not yet available, nor in some of the other classes. Further, brown, as a dye, should not be eliminated, but only one is needed, as a single brown can be made to serve for every gradation. This brown should be of a bright, yellowish (but not greenish) tone, which can be moved towards reddish browns, and darkened as needed. (The reverse process, moving a reddish brown towards yellow-brown by mixture, is not possible).

The color circle shown in Fig. 2 has certain interesting features. If the circumference of the circle be taken as indicating 100% reflection of light, or white, the ovoid curve represents the reflective powers, or relative values, of the various colors of average bright textiles (*not* spectrum colors), the curve being smoothed. The distance between the ovoid and the circumference is a measure of the range of value for any color; thus blue has a much longer apparent range than yellow.

In connection with this distance also, a simple formula could be worked out, by which the relative quantities of dyes needed in any mixture *(continued on page 82)*

The First Woolen Mill in Maine



The original Mayall Mill is supposed to have stood near the bridge on the left bank of this stream

By Frederic L. Campbell

◆*Various histories record the gradual extension of the home wool-weaving industry in Colonial America from 1684, when a man in New London, Conn., possessed four looms, to the early 19th century when actual mill units were in operation in various parts of New England. Arthur Harrison Cole in "The American Wool Manufacture" records the first purely wool manufacturing concern founded on a strictly business basis, as at Hartford, Conn., in 1788.*

Mr. Cole also mentions similar ventures in Massachusetts at Stockbridge in 1789, Watertown 1790 and Ipswich 1792. Frederic L. Campbell has uncovered interesting data on the start and early vicissitudes of what is probably the first woolen mill in the State of Maine.—Editor.

EARLY in the spring of 1790, there came from England a young man by the name of Samuel Mayall who, like his family before him, had been engaged in the manufacture of woolens in the old country. Due to the high cost of raw materials, combined with other economic reasons, he decided to establish a factory near a source of wool supply in America.

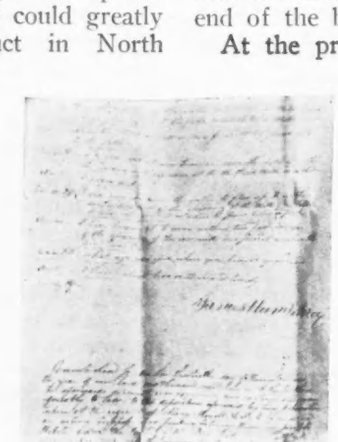
When the woolen interests in England learned that Mayall had decided to emigrate and establish a manufacturing business in America, tremendous opposition was exerted to prevent him from carrying out his plans. British producers saw that such a move could greatly interfere with marketing their product in North America.

Machinery to equip the plant was not available in America. Mayall knew that if he shipped the parts in the ordinary manner they would be destroyed before reaching destination.

Learning that quantities of bright colored cloth were shipped for trade with the Indians, he purchased a number of bales of this material and carefully wrapped the parts of his precious machinery inside the bolts. In this way he completely deceived his opponents.

On his arrival in the United States, he selected as his site the old grist mill in the town of Gray, situated on the Portland-Lewiston road in the State of Maine. When Mayall had negotiated the purchase of this building, the Mayall Woolen Mills became a reality.

On discovering that they had been outwitted and that the Mayall mill was in actual operation, his English competitors decided to employ whatever means lay in their power to hinder it in production. These designs were against both the mill and its owner, and Mayall moved in fear of his life.



One of the bits of documentary evidence concerning the Mayall mill

As it was still necessary to rely on England for certain supplies, great care was exercised in opening and unpacking the various cases on their arrival. In one of these shipments a sort of crude bomb was found, which had been placed there by agents of the English interests after the boxes had arrived on this side of the water, in hopes that by rough handling it would explode. On another occasion a small trunk arrived which Mayall knew was something he had not ordered. Suspecting foul play, he proceeded with the greatest of caution. Instead of standing in front of the trunk to open it, he stood behind and pulled the lid back toward him. As he did so a pistol, concealed inside, exploded. Had he been in front of the package, he would probably have been killed. He died of natural causes in 1831.

The exact site of the mill is difficult to determine as the original building was destroyed by fire and another plant erected some time later. These building operations completely obliterated any trace which might have remained of the old Mayall mill. Even the dam, which was made of wood, was demolished in a heavy freshet more than a hundred years ago. It is commonly thought that the first mill stood close to the road and near the end of the bridge which crosses the stream.

At the present time there is standing on this spot a dilapidated old ruin which can claim no relationship to the Mayall mill, as it is of comparatively recent date. The site of the old mill is now the property of the Pownel State School.

Documentary evidence concerning the activities of the original Mayall mill are somewhat fragmentary. Several documents now owned by G. T. Hill of Gray bear upon the subject. One of these is a deposition of James Humphry dated Nov. 13, 1833, when he was 84 years old which refers to the destruction of the wooden dam and the mill beside it. Mr. Hill also has a contract between the daughter of Samuel Mayall and Joseph Sanderson and Thomas Swan, dated July 18, 1835, for the erection of a new mill and a dam to take the place of the one destroyed. Early newspaper clippings in Mr. Hill's possession tell the story of the mill but are not identifiable as to name of paper.

Get Ready Now for the Coming of Cold Weather

By W. F. Schaphorst, M.E.

DURING the warm summer months it is always difficult to make ourselves realize that in a few months it will again be cold. Most of us dislike and dread winter, and that is one reason why we often are not ready for it when it puts in its appearance. But just the same, like winter or not, now is the time to get ready for it.

Go around your establishment with a pencil and pad and make notes of what should be done now so as to be ready when cold weather is here. Do the work as soon as possible. When winter arrives you will experience that peace of mind and happiness, always so pleasant to experience after a good deed is well done.

Power-Plant Repairs

Are your boilers in good condition? Statistics prove that workers are in greater danger in winter than in summer because boiler explosions are more numerous in December, January, and February than in the other months. Add all of the explosions during the other nine months and they usually do not equal the explosions during the three above winter months.

Now, too, is a good time to modernize old boilers. Clean them thoroughly. Make them better than when they were new by installing modern baffle walls in them—baffle walls which cannot "short-circuit" valuable hot gases. A first-class leakless baffle wall is a much more important economy factor than is generally realized. Leaks in the setting should also be stopped. Check over the grate bars, the stoker, the economizer, the feed-water heater, the feed-water regulator, the water-column, the gage glass, etc.

Perhaps you use exhaust steam during the winter months, but not during the summer months. If so, put the exhaust system in shape. Look over the back-pressure and control valves. Steam traps usually give more trouble in winter than in summer. So do pumps and receivers. Give them all a careful test and if they need repairing, repair them.

Insulate the Roof

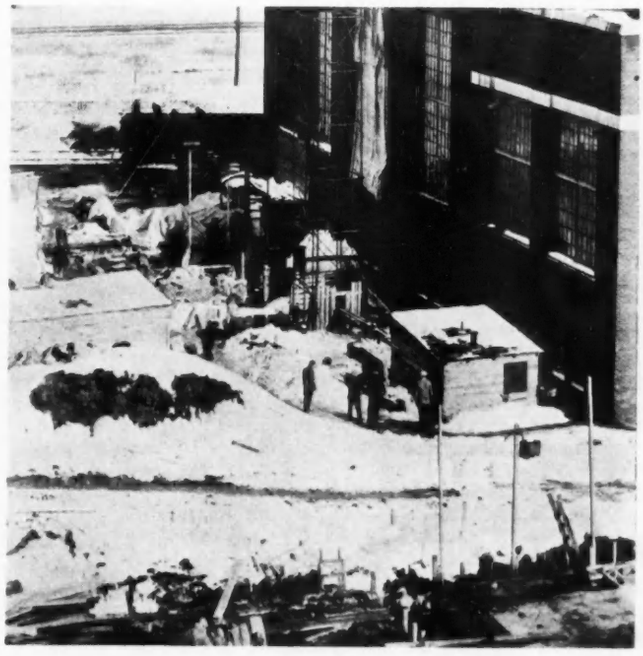
How about the roof? Is it insulated? If not, and if you have never investigated the benefits that result from an insulated roof, you should do so. For instance, more heat is generally lost through the roof than through the walls of a building, owing to the fact that warm air always goes upward and presses itself against the ceiling. If the ceiling is cold and not insulated, valuable heat is wasted.

To insulate an old roof is not as difficult a task as may be believed. It is not necessary to remove the old roofing. Simply make the roof smooth and clean. One well-known formula for old roofs, as well as new, recommended by a leading manufacturer of cork-roof insulation is this: "A layer of pitch or asphalt, plus a layer of cork board, plus another layer of pitch or asphalt." That is all that is necessary. You then have a durable, leakless, heat-proof and cold-proof roof.

Paint the Woodwork

Some woodwork needs a coat of paint once every year—especially wood which is exposed to sunlight every day. Clean out the water leaders from the roof. Be sure that all stuffing boxes are properly packed. Inspect all valves. Inspect insulation on hot pipes. Be sure that your sprinkler system is in good working order. There are more fires in winter than in summer. Vacuum lines, broken window panes also are to be looked after.

By doing these important jobs now greater efficiency and economy will result during the winter months. Besides it is easier to do them now than later on when the equipment is needed. The time to do these things is when the plant load is lowest. Next winter the same work may cost ten times as much or even more. It often is expensive to carry full load and do certain repair jobs simultaneously. Sometimes it cannot be done at all without extraordinary expense and inconvenience. Get ready now for winter.



Construction work in winter requires special safeguards and often greater expense

Gossett Lauds Move to Eliminate Night Work for Women and Minors

THE remarkable extent to which the movement to eliminate night employment of women and minors has gained ground in the cotton industry, and the harmful effect it exerted on the industry's business by that small group which has not subscribed, are emphasized in the following statement made at Charlotte, N. C., on Monday by B. B. Gossett, president of Chadwick-Hoskins Co. and vice-president of Gossett Mills:

The recommendation of the Cotton-Textile Institute that night employment in the cotton mills of women and minors should be discontinued has been endorsed by a preponderant part of the industry. Indeed, it is understood that 83% of all the mills in the United States, including over 80% of those classified as day and night operators, are actually conforming to this recommendation. Here in North Carolina close to five million spindles, or 80% of all the mills, have subscribed to the recommendation and 77% of those listed in the night classification are conforming to it.

When we stop to consider that this recommendation was submitted to the industry by the institute's board of directors only last fall, these percentages of support are truly remarkable. Only a few months ago the industry was informed that over 80% of the mills had subscribed to this policy and today we find that more than 98% of the mills that announced their intention of conforming to the recommendation are in fact doing so.

The objects are both economic and humanitarian. From the economic viewpoint the industry has suffered for years from an excess of productive capacity brought about by the rapid building of new mills and the tendency to run day and night (both to a large extent brought about by war conditions), increased productiveness of improved machinery, style changes involving the wearing of scantier clothes by women, the increased use of artificial fibers, and a general loss of export markets due to intense foreign competition.

A peculiarly destructive feature of the general practice of night running is the facility with which mills can undertake it provided women are available. The flexibility of the productive capacity of a mill willing to operate at night is such that this threat of excessive production through night running operates to destroy the confidence of buyers, competing manufacturers, financial interests, employees, and the general public. So long as night operation was a common practice none could foretell when it might be greatly increased at almost a moment's notice with resulting overproduction which would flood the market and remove all semblance of stability. In such conditions farmers were in the dark as to the demand for their product and the price which they might expect, employees were uncertain as to when their work might be curtailed by suspension or reduction of operations which inevitably followed overproduction, and financial interests were wary of loaning funds to members of an industry in such a chaotic state. Furthermore, buyers realized that at any time a large increase in night operation might disrupt the market situation; accordingly they developed more and more a hand-to-mouth buying policy and an unwillingness to carry adequate inventories. These latter tendencies permeated the entire mercantile structure even to the retailer whose stocks in many cases became so depleted as to present an inadequate showing of the industry's wares, thus discouraging buying, to the detriment of merchant, manufacturer, employee and farmer alike.

B. B. Gossett who decries the non-conformers to the night-work plan

Certain cotton mill processes lend themselves more readily to female operation and are undeniably more economically conducted by women. Thus it was believed that the elimination of women and minors from night operation would effectively discourage all night operation except under exceptional conditions.

From the humanitarian viewpoint the employment of women and children at night has been almost universally condemned by the general public, by religious organizations, by the press and by Governmental agencies as unsound socially, morally and physically. In fact, the United States is one of the few civilized countries, if not the only one, which still countenances such employment in factory work. The humanitarian aspect of this measure is so generally conceded as to render it practically axiomatic.

A small minority of the cotton mill managements, representing not over 15% of the nation's spindles, however, still withholds its sanction and support of this constructive reform. This minority, though small, is influential, and its continued long hours of day and night activity in the face of the present world-wide depression is serving to withhold or delay many of the benefits which should logically follow the sound policies of so substantial a majority. Its eagerness to secure sufficient orders to keep its plants operating day and night together with its exploitation of its resulting lower costs for the purpose of underselling its competitors, results in the continuance of price levels ruinous to the industry as a whole and makes it necessary for the remaining mills to increase their curtailment of production and employment.

The positive attitude of leading editors in all sections of the country leaves no doubt as to the nation's endorsement and applause for the splendid progress made to date in discontinuing the night employment of women and minors in cotton mills. I hope and believe that the influence of public opinion will prove to be so persuasive and effective as to hasten the day when we can announce that this great forward measure is in effect in each and every cotton mill in the United States. This, more than any other conceivable plan, would bring stabilization of employment and general improvement throughout the industry.

▸ Italian Silk Cocoon Output Expected to Decline

Silk cocoon production in Italy for 1931 will be well under last year's, according to preliminary Italian estimates forwarded to the Department of Commerce from Trade Commissioner Elizabeth Humes, Rome.

Italian reelers therefore anticipate a reduced output with resulting higher and possibly firmer prices. The industry is at present marking time, although the market has been somewhat revived by an encouraging demand from the United States for higher grade silk. Stocks in the Milan seasoning warehouses on July 22 included 200,000 kilos of raw silk, 981,000 kilos of cocoons, and 56,000 kilos of waste silk, as compared with 267,000 kilos of raw silk, 813,000 of cocoons and 178,000 of waste silk on hand on the same date of last year.

▸ Clothing Cotton Converters Accept Trade Practice Rules

The clothing cotton converters industry, engaged in producing the linings necessary for the manufacture of men's clothing, have accepted the trade practice conference rules of their industry following changes suggested by the Federal Trade Commission. The commission declined to approve or accept five resolutions as adopted by the industry.

The rules were originally adopted at a trade practice conference held in New York, in March 1930.

Rules approved by the commission, designated Group I, relate to practices such as maliciously inducing breach of

existing contracts between competitors; offering products for sale by false means or devices; false branding of products; discrimination in price between different purchasers of commodities; giving money or anything of value to agents of customers or of competitors' customers without the knowledge of their employers; selling of goods below cost with the intent and effect of injuring a competitor; defamation of competitors; secret payment or allowances of rebates, refunds, commissions or unearned discounts; and maliciously enticing away employees of competitors.

A second group of rules, accepted by the Commission as expressions of the trade, relate to such matters as usurpation of designs or styles; contracts as business obligations; arbitrations; definition of a qualified merchant converter; false invoicing, accurate methods for determining costs; and a committee on trade practices.

▸ Lustrous Satins In Growing Demand

Increasing call for high lustre panne satins is shown among evening wear manufacturers according to the acele department of the DuPont Rayon Co. Several houses are continuing the heavy lustrous satins so successfully employed last year.

▸ Textiles Inc. Sales Co. New Philadelphia Salesmen

Harry C. Graeff, who has been connected with the Philadelphia cotton yarn trade for a number of years, has became associated with the Philadelphia office of Textiles, Inc., Sales, Co., 308 Chestnut St. He will assist in covering the local trade. Severn G. Haigh, who has been identified with the Philadelphia offices of the Armstrong-Winget Mills, Inc., for about 15 years, is now calling upon the trade in Philadelphia as a salesman for the Textiles, Inc., Sales Co., successor to that company.

▸ Antiquated Spinning Equipment Prevalent in Woolen Mills

(Continued from page 40)

include a collar board with felt inserts for saving time in oiling spindles, a new design of step rail capable of retaining an adequate supply of oil, and roller bearings in the carriage wheels for permitting smooth and easy running at high speed, with little strain at the beginning of the draw and with savings in power and in replacement of ropes. Increased length of spindles permits the building of larger packages. The comparatively recent application of a differential motion to the cylinder shaft of the mule eliminates considerable loss in both working capacity and time by rendering unnecessary the stopping of the main shaft and the rope drive to the spindle cylinder and the reversing of the cylinder by means of an auxiliary drive. To just what extent these various improvements affect the relative advantages of the ring frame and mule remains to be definitely determined.

The ring frame also is still undergoing development. Comparatively recent improvements include a mechanism which lifts the bobbin to doffing height and otherwise prepares the frame for doffing, eliminating the necessity for the services of a man at this part of the operation. Others which should be mentioned are a bunch builder which can be adjusted for any range of yardage normally required, a simplified arrangement for cleaning the press rolls, a slip clutch designed for simple and gentle starting and eliminating strain on the yarn, an improved wind-down mechanism, lengthened spindle shanks to permit ends to be wound under the bases of the bobbins and facilitate doffing; and a general simplification of the entire machine with particular benefit to gear changing.

Jack Card Scans the Textile Calendar

Editor, TEXTILE WORLD:

I understand we're to have a Wool Christmas. That's fine. I hope someone lets Santa Claus know.

But I've got some friends in the cotton business so I speak for a Cotton Easter. Let the other textile fellows divvy up on the holidays that are left.

Here's hoping you have a Silky Labor Day! JACK CARD.

▸ July Rayon Imports

The Bureau of Foreign and Domestic Commerce, Washington, D. C., reports imports of rayon and other synthetic textile fibers into the United States during July, 1931, as follows:

	Pounds	Dollars
Yarns		
France	11,777	10,910
Germany	37,214	29,794
Italy	28,600	16,306
Switzerland	1,760	1,376
United Kingdom	34,500	47,027
Netherlands	37,070	18,731
Total	150,921	124,144
Spun Yarn and Thread		
Switzerland	378	458
France	159	197
United Kingdom	3	7
Total	540	662
Filaments, including artificial horsehair	.....	.....
Waste		
Switzerland	11,300	929
Italy	75,407	7,413
Germany	121,025	14,297
Netherlands	1,105	125
Japan	12,000	11,078
Total	220,837	23,842
Cut or Staple Fiber		
France	580	137
Italy	23,276	6,950
United Kingdom	96,600	54,395
Germany	3,709	1,149
Total	124,165	62,631

▸ Farm Board Will Again Comment on Cotton Problem

This week's proposals for disposing of surplus cotton include one for using the 3,000,000 bales in the hands of the Federal Farm Board in army and navy fortifications. Other plans not so ridiculous will, according to Carl Williams, be given careful consideration to determine whether they contain the germ of any idea that might remedy the situation. The chairman pro tempore, Mr. Williams, declined to comment upon the plans proposed by Louisiana's governor, Huey Long, Senators Smith and George and others. He asserted, however, that the board will not consider the purchase of cotton under any circumstances.

"For two years the board has been cushioning the farmer against drastic declines in price which have affected all industries and all commodities. In that process," said Mr. Williams, "the board has accumulated large stocks of cotton and wheat which are largely frozen. The board has discovered and hopes the American people have discovered that continued purchases in the face of continued overproduction are not the remedy for the situation. Wheat has been accumulating for 6 years; cotton for 4 years. Under these circumstances the board does not believe itself justified in making further stabilization purchases of either cotton or wheat. It must be perfectly clear that when production exceeds consumption the only fundamental solution is to let production lag behind until consumption catches up."

The stage is set, in Mr. Williams' opinion, for an improvement in the cotton situation by the time next year's crop comes in. Economic law, he said, will reduce next year's acreage but the board is concerned with what is going to happen to the South this year in the face of disastrously low prices. According to Mr. Williams the board will have something to say about this later on. In the meantime the board's so-called advisory committee on cotton is debating the problem in a meeting called by Mr. Williams. In declining to comment on the nature of the board's plans, Mr. Williams stated that whatever it has in mind is subject to further deliberation.

▸ Plan Tour of Industrial Research Laboratories

Textile leaders will be represented in a party of 100 business men and bankers from all parts of the country who will make a tour this fall of research laboratories under the sponsorship of the Division of Engineering and Industrial Research of the National Research Council, New York, the purpose of the tour being to give the visitors a close-up view of research activities in many industries, both small and large, as an aid in meeting major industrial and financial problems. The tour will leave New York Oct. 5 and return Oct. 15.

Overseers' Round-Table

THIS department offers a new subject for discussion each week and gives readers' comments on problems introduced during previous weeks. The subject which was opened four weeks ago is closed this week and a summary of contributed ideas is given on opposite page

◆

A Mill Savings Bank

Editor, Overseers' Round-Table:

I DO NOT believe that the operation of a savings department by a manufacturing company would be a good policy.

Banking is a profession in itself and intelligent investment of money requires experience and training. Few, if any, banks escape occasional losses. A mill could not afford to hire a thoroughly competent man to handle a savings department. The responsibility and added office expense for that department would entail risk out of proportion to its benefits. CARDER.

Editor, Overseers' Round-Table:

MY PERSONAL opinion is that it would be to the interest of both industry and labor if every industrial plant would set up a savings department of some kind and make it a condition of employment that every worker must save at least 10% of his wages.

This plan would reduce turnover in labor, result in a higher class of workers, and prevent so many of them being thrown on the mercy of charity during enforced idleness.

This plan would not work a hardship on any one and would help the workers to acquire the saving habit; many men will be surprised how easy it is to save money once the habit is formed. The beauty of this plan is that the money does not come into the hands of the workers, hence there is no temptation to spend it foolishly. P. P. MILTON.

Editor, Overseers' Round-Table:

I WANT to take this opportunity to cast my vote with Tex, and most heartily commend his suggestion to the consideration of both industry and the working man.

Of course, we all admit that it is a fine thing to save, but it seems that the average man never gets the habit; this plan will furnish an incentive and give him an opportunity to save without trouble or worry; he will never miss the amount and before he realizes it he will have a nice little nest-egg.

In this modern age, when men are being replaced with machinery and old men are being pushed out to make room for younger ones, there must be some plan devised to take care of the old fellows and this plan beats pensions or charity all hollow.

If this plan were adopted generally, and it was made compulsory for each employee to save a definite amount each week, we would hear far less of employees being in want or living off charity, and the soap box orator or radical labor agitator would not have such a receptive crowd. A man that is well provided for seldom falls for their bunk.

W. C. BEHELER.

Meeting Socially Outside

"NOW, you men know," Superintendent Chase grinned as the group settled, "that I think you're pretty good overseers, or I'd have let you go long ago. Quite outside of that, though, I think you're a pretty good gang personally. I say this because I'm going to bring up a pretty personal subject and I want you to get me right. To come to the point, the other night my wife said to me that I was always talking about this or that one of you and she wondered why I didn't invite some of you and your respective wives around to the house. As you know, since I've been here we haven't had much contact outside the mill and, to be perfectly frank, I've thought that it might be better this way. I've wondered about it and now that my wife has brought it up again, I'm not at all sure that I've had the right attitude. I hope you know that I like you all enough so that it would be a real pleasure to have you around to the house and to go to yours in turn, but do you think it would be a good thing for the mill?"

"Mr. Chase," Pete took the floor, "you know, of course, that I'd be very pleased to drop around to your place of an evening, or have you over at mine, but since you have wisely put this argument on the basis of what is best for all of us as business folks, I must admit that I think we are better off if we don't mingle socially. Now I'm going to be absolutely honest and I'm sure you all realize that I'm talking from an abstract business standpoint. Now suppose that I—and of course I'm speaking not as a personal I—gum up something in the mill and you have to come around and bawl me out. So far so good, but if you come around to my house that evening and we meet on a social basis I will still feel the bawling-out a bit and the evening won't be much of a success. I'll admit that there are some people who can divorce business and social life entirely, but they are very few. To be honest, it is probable that the better I get to know you socially the more I will resent any criticism. I'll begin to take it on personal rather than a business basis, and that's bad. Perhaps—and I'm speaking impersonally—you're the sort of person I don't dare win any argument with on any ground, because I'm afraid that you'll have to show your superiority by lording it over me in the mill.

the Mill

Then again, suppose your wife doesn't like me personally: I may be a fine overseer, but if she rags me enough you're bound to think eventually that I'm not such a hot number after all."

"Pete has used up entirely too much time," Bill rejoined, "on arguments that are ridiculous. If the super is not big enough, and I'm not big enough, not to let winning an outside argument, or a personal view of the wife, have any effect on our business relations we all ought to go back to short pants. As far as criticism or arguments are concerned, it doesn't take much common sense to realize that the business and social ends are entirely different. Quite outside of the pleasure of our getting together socially, I can see little harm and a lot of good. If we meet socially, I suppose that our wives will throw up their hands and say we talk nothing but business, but it's the sort of business we can't talk in the mill. When we meet outside we're sort of on an even plane and I'll feel free to discuss a lot of things with you that I'd never dare discuss in the mill. I may even bring up something that a lot of us are stewing about, but don't dare mention in a business relationship. In the same way, you can tell me things of an evening in a casual way that you wouldn't want to criticise me about in the mill. I think it's a good thing to be friendly on a social basis and I think that there are a lot of things we can talk over and settle on such a basis that we never could on a cold, business basis."

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Do *you* think that the superintendent and his overseers should mingle socially?

Overseers and others are invited to discuss this and other questions brought up in the super's talks. Letters accepted and published will be paid for without regard to length. Brevity is desirable.

Editor, Overseers' Round-Table:

I DO NOT THINK it advisable for a company to start savings department for its employees.

There would be a feeling among employees that such a savings department was profitable to the mill or the management would not have undertaken it.

My experience has been that when you undertake to change the habits, disposition, and home life of employees, you are tackling a hopeless task. Thrift should be taught in the schools, where the character and habits can be formed which will stay for life.

I don't think it advisable for any company to assume the duty of the home State, Church and Sunday School.

S. S. R.

Editor, Overseers' Round-Table:

I AM inclined to the thought that it would be a fine thing for both company and employees if the plan propounded by Tex were adopted by every industrial plant in the country. I feel sure that a plan like this would prevent many workers being at the mercy of charity during periods of depression.

Most every employee would like to save money, but, because he only has a small amount, he usually neglects it or considers the amount too small, where if it was handled by the company he would never miss the amount and, as Tex so widely suggests, it would work automatically leaving the employee nothing to worry about.

Once this plan is adopted men will soon be vieing with each other to see who can save the most, and many men will acquire a competence who would otherwise never have a dollar ahead.

I do not hesitate to say that I am of the opinion that the good will and appreciation that will accrue to the company from the employees will far outweigh the expense and trouble.

S. J. ALLEN.

Publicity for Bad Work

Editor, Overseers' Round-Table:

IT HAS long been the practice in many of the large industrial plants to give considerable publicity to waste and spoiled work, and the publicity takes the form of more than just a mere notice on the bulletin board. Samples of the spoiled work are mounted on a display board and sometimes this is put on an electric truck and is moved from department to department, with suitable placards underneath telling the amount of waste in dollars and cents.

The effect of this is a general avoidance of repetition in the future. No one in particular is given the blame, but the lesson is taught that spoilage is due to carelessness and a way to prevent future troubles of a like nature is usually pointed out. Efficiency is, of course, absolutely essential to survive, especially in these times, and the good overseer will welcome any aid in the prevention of spoilage. The cooperation of inspectors, and loom fixers, and mechanics is necessary to prevent bad work. The display comments call for machine efficiency as well as human alertness.

The scheme is worth a trial from those who have not experienced its workings. It does not stir up trouble or hard feeling when applied to all departments alike.

CHAS. H. WILLEY.

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Summary of Discussion on Mill Savings Bank

Somewhat over 60% of the contributions favored the mill making arrangements for a savings fund for employees, their main argument being that it was good for everyone to save and having the mill handle it made it so easy that many would save with this plan who would not otherwise do so. The balance of contributors stated that banking was outside the scope of the mill, and that the time and effort expended would be far greater than would be repaid by the appreciation of the employees.

NEWS about MEN

M. R. Porter, of Iselin-Jefferson Co., New York, is president and treasurer of the New Braunfels (Tex.) Textile Mills, a new company which purchased the Planters & Merchants Mills, Inc., from receivership. **Emil Fischer,** of New Braunfels, is vice-president; **H. A. Wagenfuehr,** of New Brunsfels, is secretary; **R. P. Vickers** is assistant treasurer and assistant secretary. The operating personnel remains the same as before.

Joseph R. Grundy, president, Wm. H. Grundy Co., Inc., Bristol, Pa., and former Senator from Pennsylvania, sailed on the "Europa" recently for Europe. He will join his sister in Switzerland and expects to be there for about a month.

F. W. Eaton, chairman of the board of directors of the Corticelli Silk Co., recently visited Western Canada during the course of a 12,000 mile motor trip. Leaving their car at Vancouver, he and his party visited Alaska by steamer and are now on their way south to California on the first stage of their homeward journey.

Joseph W. Cannon, cotton mill official of Concord, N. C., with Freddy Lund, stunt flyer, has acquired the dealership of the Aeronca airplane. Mr. Cannon's son, **J. W. Cannon, Jr.,** is learning to fly and is being taught by Mr. Lund.

W. H. Belk, Charlotte, N. C., president of the Ellenboro (N. C.) Mfg. Co., with Mrs. Belk, has returned from a trip to Nova Scotia. After remaining in Charlotte a few days, they left for Montreat, N. C., to spend the rest of the season.

Ernest B. G. Piggott, after 24 years at the Waypoyset Mfg. Co., Central Falls, R. I., in an executive capacity, has severed his connections with that concern. When the corporation was organized in 1907, Mr. Piggott became associated with the late Harold C. Barnfield and served as secretary, assistant treasurer and finally as resident manager, which position he held for many years. Mr. Piggott has also been a director of the corporation. He has not announced his future plans.

A. J. Grimwood, who has been with the Bailey Underwear Co., Allentown, Pa., for the last 30 years, is now secretary and treasurer of the firm. Mr. Grimwood, who formerly was secretary, takes over the duties of **C. P. Wentz,** treasurer, who has retired.

Hugo Mancici, of "Chatillon," Milan, Italy, who formerly held the position of manager of the Rome (Ga.) plant of the Tubize-Chatillon Corp. has been the guest of the plant in Rome.

H. Y. McNeil, general manager of the Fonda (N. Y.) Glove Lining Co., has been elected a delegate to the State convention of Kiwanis Clubs at Elmira, N. Y., in September.

Miss Gladys Kiplinger, who has been in charge of the fashion department of the Holeproof Hosiery Co., New York, has been appointed advertising manager of the company.

Alex Van Straaten, president of Van Straaten & Havey, Inc., Philadelphia, accompanied by Mrs. Van Straaten, will sail from New York, Sept. 17, on the "President Grant," for Japan, via the Panama Canal. Mr. Van Straaten will be away for three months during which time he will visit the Yokohama headquarters of the company.

Arthur Lee, export manager of the William Carter Co., Needham Heights, Mass., is a member of the committee of Associated Industries of Massachusetts, to consider measures for the stabilization of employment. John F. Tinsley, vice-president of Crompton & Knowles Loom Works, Worcester, Mass., is chairman of the committee.

Charles B. Ordway, professor of dyeing and chemistry at the Textile School of the Alabama Polytechnic Institute, Auburn, Ala., is spending some time at the textile laboratories of the Massachusetts Institute of Technology, studying under Prof. E. R. Schwarz in connection with the graduate courses being offered on textile technical analysis and textile microscopical analysis.

W. S. Evans, formerly with the Arkwright (S. C.) Mills, near Spartanburg, S. C., was recently appointed superintendent of the Irene Cotton Mills, Gaffney, S. C., succeeding **J. B. Wright,** who has resigned.

T. R. Hart, associate professor of weaving and designing, and **J. T. Hilton,** associate professor of yarn manufacture, at the N. C. State Textile School, Raleigh, N. C., after visiting a number of mills in the South, will return to the college and prepare work for new courses in color in woven design and manufacturing problems, which will be given the next semester.

George R. Blackwell has been added to the New York sales office of the Gibsonville (N. C.) Hosiery Mills Co. He was formerly associated with the May Hosiery Mills, Inc., Burlington, N. C., and the Durham (N. C.) Hosiery Mills. The company has offices at 366 Broadway and is represented by W. S. Long, C. A. Walker and C. A. Walker, Jr.

A. Tait Hope, designer for a number of years in Chase Mills, and Webster Mills, Webster, Mass., sails for Glasgow, Scotland, Sept. 8, on a visit.

D. B. Hardin, assistant professor of knitting and designing, N. C. State College, Raleigh, N. C., is spending several weeks at the plants of Scott & Williams, and the Hemphill Co., studying the latest improvements on Scott & Williams and Banner hosiery machines.

F. H. Romaine, formerly with the Walther Mfg. Co. and the William Whitman Co., is now associated with the Brighton Worsted Co., Inc., Philadelphia, as stylist. Mr. Romaine will have full charge of the fabrication of Brighton's fancy men's wear worsted lines.

John Mandel, formerly with T. Gaines Amery, is now associated with **Roy Jonson,** in the converting department of Wright & Graham Co. Mr. Mandell will call on the shirt and pajama manufacturers in New York.

John S. Hoyle, superintendent of the worsted department of the George H. Gilbert Mfg. Co., Gilbertville, Mass., for the last 20 years, has been appointed superintendent of the Onawa Spinning Corp., Woonsocket, R. I.

C. E. Belk has assumed new duties as assistant superintendent of the Spencer Corp., Spindale, N. C. He has been connected with a mill at Belmont, N. C.

James Mallison, overseer of the picker department at the Assabet Mills of the American Woolen Co., Maynard, Mass., completed 50 years in the employ of the mills on Aug. 24. He has been engaged in the textile industry for 59 years, 47 of which he has been employed in the picker department. He will be 70 years of age on Dec. 14.

Norman E. White, formerly assistant secretary and publicity director for the Association of Cotton Textile Merchants of New York, and the Textile Export Association of the United States, has been appointed vice-president of the Colby Advertising Corp., New York. Among other accounts handled is that of M. C. D. Borden & Sons, selling agents for the American Printing Co., Fall River, Mass.

R. P. Barton has been made general overseer of spinning, warping, spooling, twisting, and the roller shop of the Lancaster (S. C.) Cotton Mills.

James L. Fleming, former office manager of the Linen Thread Co. of Massachusetts, North Grafton, Mass., now closed, is taking a vacation in Provincetown, Mass., before starting his new duties as office manager of the American Net & Twine Co., Gloucester, Mass.

Onslow Curry, an employee of Hart Cotton Mills, Tarboro, N. C., has the enviable record of having served the mill for 15 years without losing a day on account of sickness.

C. C. Roberts, formerly of the Aiken Mills, Bath, S. C., is now head of the carding department of the Brookside Mills, Knoxville, Tenn.

Herbert Fulton, Gilbertville, Mass., has accepted a position as overseer of finishing with the Goodall Worsted Co., Sanford, Me.

Joseph C. Cobb has resigned his position with the Shambow Shuttle Co., Greenville, S. C., to accept the position of overseer of No. 2 warp spinning at the Lancaster (S. C.) Cotton Mills.

Charles Sannwaldt, for the last seven years with the U. S. Finishing Co., will be associated with the Bellman Brook Bleaching Co., on Sept. 15.

Daniel N. O'Brien has resigned as overseer of weaving at the Ashton (R. I.) Mills of the Lonsdale Co.

Ellen Virginia Stuckey, Sumter, S. C., recently accepted a position as stylist for the Pacific Mills, New York City.

Obituary

Edward A. Jones

Edward A. Jones, head of Edward A. Jones & Co., New York, selling agents for Kent Mfg. Co. and Hampton Looms of Virginia, Inc., died suddenly of heart attack early this week at his home in South Orange, N. J., at the age of 48 years. He was vice-president of Kent and president of Hampton. He began his connection with the woolen and worsted industry with the firm of H. Bauendahl & Co., later joining forces with Thomas Ould & Co. Leaving that concern, he became identified with the Stillwater Worsted Mills. He entered business with Frank Howard, the firm doing business under the style of Howard & Jones, and representing at one time or another the South Bend Woolen Mills, Western Woolen Co., Moniteau Mills, Patrick of Duluth, and Columbiaville Mills, Jacksonville Mills, the Appleton Woolen Co. Later, he organized Edward A. Jones & Co., representing the Kent Mfg. Co., Rockford Woolen Mills, Aurora Mills, and the Bedford Mills. About two years ago he confined his interest to the distribution of the product of the Kent Mfg. Co. and the Hampton Looms of Virginia, Inc., and was recognized as one of the most successful merchants of the difficult period through which the market is passing.

Herbert J. Hope (left) loom designer for nearly 50 years at Sanford (Me.) Mills, who has devised a new construction for imitation fur fabric, and Victor McFarland, who first operated the "fur" loom. The pile is mohair with both long and short fibers intermingled. The new "fur" is called Koongora because it looks like coonskin and is made of the Angora hair.

Edward E. Chadbourne

Edward E. Chadbourne, aged 63, for nearly 10 years agent of York Mfg. Co., Saco, Me., died on Aug. 25, following a long illness. He was born in Saco Aug. 15, 1868. At the age of 15 he went to work for the York Mfg. Co., where he spent the active years of his life. He succeeded Elmer E. Page as agent upon the latter's death in 1921. The finances of the business were given his personal direction. He was also clerk of the board of trustees for a long period and director of several banks.

Samuel H. Campbell

Samuel Henegar Campbell, aged 61, one of the owners of the Mountain City Mills, Chattanooga, Tenn., of which he was secretary-treasurer several years, a director of the Crystal Springs Bleachery, Chickamauga, Ga., and a director of the First National Bank, died at his home, following a stroke. Mr. Campbell was born at Georgetown, Tenn., in 1870, and removed to Chattanooga with his parents in 1886.

H. S. Rossell

H. S. Rossell, vice-president of the Hunter Mfg. & Commission Co., New York, died suddenly last Saturday of heart disease. He was the financial contact man for the Hunter company and had been with the house about 12 years. He was about 50 years of age.

James Phillips

James Phillips, aged 82, formerly wool mill owner of Fitchburg, Mass., died recently in Los Angeles, Calif., where he had resided for a number of years. Mr. Phillips was owner of the Fitchburg. (Mass.) Worsted Co. and the Beoli Co., West Fitchburg, Mass., which he sold to the American Woolen Co. at its organization in 1899. He began his textile career in Woonsocket, R. I. and formerly controlled the Valley Worsted Mills, Providence, R. I.

George Grimshaw

George Grimshaw, active for many years in the silk industry, died Aug. 29 at his home in Upper Montclair, N. J., at the age of 79 years. His death follows that of his brother David Grimshaw with whom he had been closely associated for 60 years. by 16 days. The Grimshaw brothers had been widely known in the silk business in Paterson for many years. They came from Macclesfield, Eng., as boys, and at one time operated a large mill in Reading, Pa. Surviving George Grimshaw are his widow, three sons and two daughters.

Charles G. McGhie

Charles G. McGhie, president of Guaranty Silk Dyeing & Finishing Co., St. Catharines, Ont., Canada, died suddenly last week of heart disease.

Textile Calendar

Carolina Yarn Association, Second Annual Golf Tournament and Banquet, Sedgefield Inn and Country Club; Greensboro, N. C., Sept. 18 and 19, 1931.

Textile Operating Executives of Georgia, Fall Meeting, Georgia School of Technology, Atlanta, Ga., Sept. 25, 1931.

National Association of Cotton Manufacturers, Annual Meeting, Providence-Biltmore Hotel, Providence, R. I., Oct. 7 and 8, 1931.

Southern Textile Association, Master Mechanics Section, Fall Meeting, Gastonia, N. C., Oct. 16, 1931.

Silk Industry Week, Paterson, N. J., Nov. 14 to 21, 1931, including Silk Machinery Exposition, Nov. 14 to 21; National Silk Convention, Nov. 18 and 19; Paterson Silk Institute, Nov. 14.

American Association of Textile Chemists and Colorists, Annual Meeting, Boston, Mass., Dec. 4 and 5, 1931.

Knitting Arts Exhibition, 28th Annual Show, Commercial Museum, Philadelphia, April 11 to 15, 1932.

Southern Textile Exposition, Textile Hall, Greenville, S. C., Oct. 17 to 22, 1932.

NEWS about MILLS

Cotton

U. S. Cotton Duck Mill, of the U. S. Penitentiary, Atlanta, Ga. The second installation of new model large package spinning frames made by the H. & B. American Machine Co. is now being completed at this mill. They are being operated by inmates of the penitentiary.

***Clark Thread Co.,** Austell, Ga. Work has been practically completed on the new plant, and machinery is now being installed.

Berkshire Fine Spinning Associates, Inc., Adams, Mass. Through revision and expansion of its group insurance program, the company is now providing its employees with the benefits of approximately $1,300,000 group life insurance, in combination with sick and accident benefits. The revised plan remains under the administration of the Metropolitan Life Insurance Co.

***Pacific Mills,** Lawrence, Mass. The management has decided to broaden operations at the company's Lyman, S. C., plant by installing printing machinery as reported in these columns last week. Eight machines will be installed and it is probable that a portion of the equipment will be transferred from Lawrence, although no decision has been reached. It is planned to confine printing at Lyman to the coarser classes of goods, finer work to be continued at Lawrence. Contract for building an addition to the Lyman plant bleach house (12,000 sq.ft.) and a reinforced concrete warehouse (100,000 sq.ft.) will soon be let. Bids will be received at the Spartanburg office of Lockwood-Greene Engineers, Inc., on Sept. 12. Space for the printing machinery and 50% increase in capacity of the bleachery and dye plant will be provided. Full operation with 200 additional operatives is expected by Jan. 1.

Nashua (N. H.) Mfg. Co., both plants have arranged to continue operations at its plant through the Labor Day period, when the mill normally is closed for the annual two weeks' vacation. The shutdown will be postponed indefinitely, owing to the heavy volume of orders on hand. The mills are running at about 70% of capacity, as compared with about 60% at this time a year ago.

Locke Cotton Mills Co., Concord, N. C., is now engaged in the manufacture of hosiery yarns, having discontinued its weaving department.

Cleveland Cloth Mills Co., Shelby, N. C., is advancing capacity in its rayon satin department and has added about 75 workers to the payroll. The mill is now running on a 48-hr. week.

Cheraw (S. C.) Cotton Mills. Installation of new single process pickers, Arnold system, made by H. & B. American Machine Co., with variable speed calenders, has just been completed.

Brooks Brothers Co., Inc., Greenville, S. C., is arranging for maximum output at its local tapestry mill, recently established, and will give employment to about 75 operatives on a full-time basis. Headquarters are at Philadelphia, Pa.

Renfrew Mill, Greenville, S. C. Installation of machinery which will increase the output of the mill near Travelers Rest, by 10%, will begin at once and be finished in about 30 days, according to announcement. The present capacity of Renfrew Mill is 750,000 yards per week, while the capacity after the proposed expansion will be 825,000 yards. No new building will be necessary, however, since the present structure is large enough to permit installation of additional machinery. The plant, which is a unit of the **Brandon Corp.,** bleaches and finishes goods made in the other mills of this system.

Industrial Cotton Mills, Rock Hill, S. C., have announced that they will take on 250 additional operatives.

Bemis (Tenn.) Bros. Bag Co. is now installing a large number of single process pickers fitted with the Ramsdell automatic self-doffing calenders, also a complete equipment of new opening and cleaning machinery, all furnished by the H. & B. American Machine Co.

***New Braunfels (Tex.) Textile Mills** is the name of a new company which has purchased the Planters & Merchants Mills, Inc. Operations have been started under the new ownership. No important changes were necessary, and the mill will make fabrics similar to those which it had been producing, namely: shirtings, seersuckers, ginghams and handkerchief cloths. Iselin-Jefferson Co. will be the selling agents.

Wool

Mayfield (Ky.) Woolen Mills, have work under way on the installation of additional machinery, recently transferred from the mill of the parent organization, **Curlee Clothing Co.,** St. Louis, Mo. They expect to give employment to about 400 additional operatives at the plant as soon as the work has been completed.

***Corinna (Me.) Mfg. Co.** Creditors of these woolen mills, closed for some time under a receivership, are in a deadlock as to the disposal of the property valued at $200,000, in buildings, equipment, houses and rights. One group favors keeping the plant intact and resuming production under the receivership, or at a later date when the demand warrants. Another group is in favor of liquidation, which, it is claimed, will net but a small dividend to creditors. The referee appointed by the court holds that no action can be taken until the creditors agree.

Old Town (Me.) Woolen Co., Inc., is running on a capacity schedule with an overtime shift in several departments.

Barre Wool Combing Co., Ltd., South Barre, Mass., has let the contract to a local contractor for a concrete and brick addition to its dyehouse to cost $16,000. Work has begun from private plans.

Albany Woolen Mills, Rensselaer, N. Y., are now running on a 24-hr. daily schedule in all departments.

Bedford Johnson Co., Lynchburg, Va. Controlling interest of this plant of the company has been purchased by the **Hercules Clothing Co.,** Columbus, Ohio. This does not affect the main plant at Bedford, Va.

***Patons & Baldwins, Ltd.,** Toronto, Ont., new worsted spinning mill buildings, now under construction in York township, are now well under way. It is expected that the plant will be completed several weeks ahead of schedule. The plans call for four buildings: a dyehouse, a power house, the east wing, and the north wing. Wilde & Brydon, Toronto, are the contractors.

Southward Bros., Sulby Glen, Isle of Man, contemplate moving their plant to Canada. The firm has recently carried on extensive negotiations with the Vancouver board of trade with this plan in mind. They are manufacturers of blankets, rugs, tweeds, flannels, shirtings, knitting wools, hosiery—a complete unit, from wool to finished goods. Other locations, if more favorable conditions can be found, will be considered.

Knit

Real Silk Hosiery Mills, Indianapolis, Ind., are running on a full-time production basis in all departments of their local plant, with the knitting division giving employment to an overtime night shift. They expect to hold to the present schedule for an indefinite period.

***Contoocook Hosiery Mills,** Hillsborough, N. H. All but 160 of the 1,000 shares of stock, offered by prominent local men, has been sold in the attempt to resume operations. The mills have been closed for several months but are expected to open soon.

Essex Knitting Mills, Inc., Newark, N. J., have been incorporated with a capital of 1,000 shares of stock, no par value, to operate a local knitting mill. One of the principal incorporators is I.

**Indicates previous mention of project.*

Schlesinger, heretofore superintendent of company of the same name, with local mill at 144-50 Orange St. and lately in financial difficulty. It is understood that the new organization will take over the assets of the old concern. Other incorporators are Henry J. Bender and Moe Rich. The new company is represented by Grosman & Grosman, 1060 Broad St., Newark, attorneys.

Bailey Knitting Mills, Fort Plain, N. Y., have sold their No. 2 mill to the Barnett Knitting Co., Inc., for the manufacture of high grade wool sweaters, bathing suits, and jersey dresses. The No. 1 full process sweater mill is the property of the Bailey Knitting Mills but is not in operation.

Van Raalte Co., Saratoga Springs, N. Y., has increased operations and is running near capacity.

Junior Hosiery Co., 2052 Wheatsheaf Lane, Frankford, Philadelphia, will move machinery for the manufacture of children's full-fashioned and seamless hosiery to Pearl and Willow Sts., Reading, Pa. The full-fashioned machines on women's hosiery will continue to be operated at Philadelphia; this department is now operating day and night according to H. L. Vogt, president.

John E. Hanifen Co., manufacturer of knit fabrics, sweaters, etc., East Oxford and Thompson Sts., Philadelphia, has filed a petition in voluntary bankruptcy. Harold R. Shirley, Packard Bldg., Philadelphia, was appointed receiver under bond of $50,000.

***Massachusetts Knitting Mills,** Columbia, Tenn., will soon begin the installation of a mechanical drying plant, for which machinery has been obtained. They expect to have the unit in service at an early date.

Standard Knitting Mills, Knoxville, Tenn., is operating on a full-time schedule, it is reported.

**Indicates previous mention of project.*

***Virginia Maid Hosiery Mills, Inc.** The new unit which has been under construction at Pulaski, Va., has been completed and the installation of machinery is under way. The output of the plant will be nearly doubled when all of this machinery is in. The new building has 12,000 sq.ft. of floor space where 32 full-fashioned machines can be housed, 15 of which are now being installed. This gives the plant a total of 33 machines of this type. The new machines were furnished by the Textile Machine Works. The plant is running day and night.

Silk

Carson & Gebel Silk Co., Paterson, N. J., is moving its entire equipment to Dover, N. J., where the address will be 291 Park Heights Ave.

Donald Silk Co., Paterson, N. J., recently organized with capital of 1,000 shares of stock to operate a local mill, will be represented by George Gold, 126 Market St., Paterson, an attorney. Emil Weisser, Hasbrouck Heights, N. J., is one of the principal incorporators.

Cetwick Silk Throwing Mill, Asheboro, N. C. A contract has been awarded to Clyde Wood, local contractor, for a 3-story addition to the east side of Cetwick Silk Throwing Mill, 55x50 ft., which will cost, including machinery and a sprinkling system, around $100,000. The basement will be equipped with a lunch room for the employees. The two upper stories will be equipped with machinery, which will give an added production of almost 50% to the present output. This change will give employment to 75 or 100 more people. There are at present 225 operatives.

Dominion Silk Mills, Ltd., 2 Mark St., Toronto, Ont., may be forced to move their plant, in the event that a proposal of the advisory planning committee, is endorsed by the city council. This proposal calls for the extension of Sydenham St.

Rayon

Tubize-Chatillon Corp., Hopewell, Va., is advancing operations at its local rayon mill and has added more than 125 operatives to the working force during the last few weeks. It is expected the improved schedule will be in force for an indefinite period.

Finishing

***Patex Fibre Corp.** has taken over the Montville Finishing Co.'s plant at Montville, N. J., where it is finishing its processed Patex dish towels, recently placed on the market. Principals interested in the **Montville Finishing Co.** are also interested in the new Patex Fibre Corp., which makes the sale a nominal transaction, according to Henry Bayer, general sales manager. James Logie has been made production manager at the plant.

Puritan Textile Printing Co., Central Falls, R. I., according to the New England Council, will enter the business of printing rugs, employing about 10.

Cranston (R. I.) Print Works Co. Mill tenements belonging to the company are being modernized with steam heat, bath rooms and fire-proof shingles.

Pure Water Dyeing & Finishing Co., Inc., Tarklin, R. I., recently organized with a capital of 500 shares of stock, no par value, to operate a local mill, will be represented by George E. Bidwell, 73 Woonsocket Hill Rd., Woonsocket, R. I., one of the principal incorporators. Other incorporators are John B. Cabana and M. C. Doonan.

Textile Patents

APPARATUS for drying textile bands, yarns, slivers, tops, and the like. 1,813,585. Richard Schilde, Hersfeld, Germany.

APPAREL garment. 1,813,389. Ewen C. Duff, New York, N. Y. Assigned to Kops Bros., Inc., New York, N. Y.

BEAM supporting means for textile machinery. 1,814,780. William H. Bahan, Greenville, S. C.

CELLULAR material for safety garments. 1,812,936. Sefarino De Faveri, Milan, Italy.

CHEMICAL processing of cellulose pulps. 1,813,465. George A. Richter, Berlin, N. H. Assigned to Brown Co., Berlin, N. H.

CIRCULAR knitting machine. 1,814,265. Fred H. Schabacker, Rockford, Ill. Assigned to Rockford Mitten and Hosiery Co., Rockford, Ill.

CLOTH cutting machine. 1,815,017. Albert C. Wagner, Covington, Ky. Assigned to The Wolf Machine Co., Cincinnati, Ohio.

COMBINATION garment. 1,814,457. Beatrice Spiers, Philadelphia, Pa.

COMBINED harvesting and cotton cleaning machine. 1,814,761. John E. Mitchell, St. Louis, Mo.

COMPOSITE material. 1,814,643. William O. Stoddard, Jr., Detroit, Mich.

CORDAGE yarn and method for producing the same. 1,814,958. John A. Palmer, Auburn, N. Y. Assigned to Columbian Rope Co., Auburn, N. Y.

COTTON opening and picking system. 1,814,129. Robert S. Curley, Lowell, Mass. Assigned to Saco-Lowell Shops, Boston, Mass.

CREELING mechanism. 1,814,203. Henry H. Yates, Cremorne, near Sydney, New South Wales, Australia.

CREPE fabric and method of making same. 1,813,530. Camille Dreyfus, New York, N. Y.

DEVICE for stretching fabrics widthwise. 1,814,652. Hans Weiss, Uzwil, Switzerland. Assigned to the Firm Maschinenfabrik Benninger A.G., Uzwil, Switzerland.

DYEING machine. 1,813,784. William A. Traver, Providence, and John M. Wood, Pawtucket, R. I. Assigned to Franklin Process Co., Providence, R. I.

DYESTUFF containing chromium and process of making. 1,813,879. Hans Kammerer, Mannheim, Germany. Assigned to General Aniline Works, Inc., New York, N. Y.

DYESTUFFS containing chromium and process of making. 1,814,218. Karl Holzach, Ludwigschafen-on-the-Rhine, Hans Kammerer, Mannheim, and Werner Muller, Ludwigschafen-on-the-Rhine, Germany. Assigned to General Aniline Works, Inc., New York, N. Y.

FAST prints on vegetable fibers. 1,813,641. Alwin Schneevoight, Ludwingshafen-on-the- Rhine, and Karl Anacker, Mannheim, Germany. Assigned to General Aniline Works, Inc., New York, N. Y.

FLYER construction. 1,813,893-1,813,895. Michael J. McHale, Scranton, Pa.

FULL-fashioned knitting machine. 1,813,163. Kenneth Howie, Norristown, Pa. Assigned to Wildman Mfg. Co., Norristown, Pa.

GANG sewing apparatus. 1,813,489. John F. Gail, Evanston, Ill. Assigned to the Simmons Co., New York, N. Y.

HOSIERY form. 1,813,388. William J. De Witt, Auburn, N. Y. Assigned to Shoe Firm Co., Inc., Auburn, N. Y.

HOSIER protecting compound. 1,814,221. Roy M. Metcalfe, Olympia, Wash.

HYDRAULIC friction device for knitting machines. 1,813,351. John Gift, South Temple, Pa.

LOOM for weaving tufted pile fabric. 1,814,294. Eugene F. Clark, Damariscotta, Me. Assigned to Marshall Field Mills Corp., Philadelphia, Pa.

MACHINE for knitting tubular envelopes. 1,814,324. Franz Meiwald, Vienna, Austria.

MACHINE for treating webs of fabrics in the open state. 1,814,706. Hans Karrer, Uzwil, Switzerland. Assigned to Firm Maschinenfabric Benninger, A.G., Uzwil, Switzerland.

MANUFACTURE of yarns or thread and apparatus therefor. 1,813,611. William Alexander Dickie and Robert Martin, Spondon, near Derby, England. Assigned to Celanese Corp. of America.

MANUFACTURE of viscose. 1,814,542. Galo W. Blanco and Carleton Henningsen, Buffalo, N. Y. Assigned to Du Pont Rayon Co., New York, N. Y.

METHOD of dyeing textile fabrics. 1,814,743. Alexander J. Belokopytoff, Norwalk, Conn. Assigned by means assignments to Katherine L. Mayehoff, Norwalk, Conn.

Questions... *and* Answers

Knit Goods Uneven in Shade

Technical Editor:

We have been experiencing considerable difficulty of late in securing a uniform shade of Egyptian on cotton. Our merchandise is knit from good clean cotton with latch needles and we use the following process for dyeing:

We first half-bleach the material with 2½% of peroxide boiling for 45 min., and wash in two waters. In a third water we give the cloth the dye. The fabric is run in the dyebath for 1 hr. and given the usual washing thereafter. Our dye formula is as follows: 80/100 oz. of Naphthamine Brown 1307 and 1 54/100 oz. of Direct Yellow Extra Green.

These dyes are distributed in 2 gal. of boiling water, then reduced to about 20 gal. with cold water. The solution is put into the tubs very carefully with dippers, and we take pains to distribute it evenly. (We are now equipping a tank on the end of the tub to distribute the dyes across the entire front of the bath, which will give a more even distribution than the manner which we have been using.) The cloth is extracted and put through Hurricane dryers. We find that the cloth will vary through a whole roll as to color. For instance, out of the twelve-string batch there may be three rolls of considerably lighter shade than the balance of the batch. Our dye tubs are run at about 45 r.p.m. and are about two-third full of water while dyeing. These are Klauder-Weldon machines.

We shall appreciate your advice as to the cause of this trouble. (7639)

We assume that the bleach has been preceded by a boil in caustic soda, either in an open kier or in the dyeing machine, in order to remove the waxes and pectins which are not removed by the peroxide bleach. The bleaching operation itself seems adequate for clearing the ground, although you do not state whether you use an alkaline bath or simply use the peroxide in its natural state, which is generally slightly acid. An alkaline bleach will leave the goods in much better condition for dyeing.

As the dyestuffs are not standard colors of the "Color Index," we are not in position to comment on them. The proper dyes to use are the direct browns (knowns as Catechines), and direct yellows (known as Stilbene yellow). Practically all dyestuff manufacturers can supply you with products of these types. These colors are noted for their level-dyeing properties, and should be used without salt in the bath. About 1% of trisodium phosphate will be helpful in getting evenness and penetration. A full boil is not necessary, but a temperature of 180° F. should be reached at the end of the dyeing operation.

A common cause of such unevenness as your samples show is unequal heating of the bath. If the machine is heated by a single perforated pipe at the front, there is always an irregular distribution of the steam; and one side of the kettle gets more than the other, with the result that several pieces on one side are light and several pieces on the other side are too heavy. Two steam pipes, entering from the opposite sides, are frequently used to correct this condition, which has far more influence than would be suspected. The front box or boiling compartment of the dyeing machine should be perforated only enough to allow the hot dye liquor to enter the kettle slowly and to become heated uniformly before it comes into contact with the goods. We believe that if you use the proper type dyes and rearrange your heating system, you will be able to get uniform dyeings.

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Rancid Odor in Worsted Top

Technical Editor:

We are sending you under separate cover a few yards of a sliver from a dyed top. This top, after having been backwashed, was found to have a peculiar odor. Bear in mind that the soap and city water used on these tops is the same as that used on hundreds of pounds of tops, and no odor has ever been noticed. The sliver is practically bone-dry now and the odor is not so great. We are wondering if you can give us any information as to the cause of this odor. (7659)

We have examined the sample of silver and have noticed that it has an unnatural feel. This leads us to believe that either the oil or soap has not been thoroughly removed on the backwasher. The peculiar rancid odor may be due to the fact that the oiled tops stood around too long either in the wet or dry state. We extracted some of the material with ether and were able to remove considerable oil. After wetting-out the extracted material the peculiar odor was not noticeable.

We suggest that you strengthen the soap bath on the backwasher and then rinse thoroughly to remove the soap. If the material still gives off the odor, you had better check up on the oil. It is possible also that an oil assistant is being used in the dyeing which could be eliminated.

The dried tops coming from the back washer should not have the peculiar feel observed in the sample. Providing the material has not been left in the dyebath too long, this effect may be due to residual oil in the tops.

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Silk-Throwing Problems

Technical Editor:

I am very much interested in determining the number of yards from a pound of silk. Prior to this time I have been determining this from the fact that one denier will register 4,464,528 yd. per lb. and by dividing this figure by the average denier of my silk. I do not quite understand the principle of moisture absorption, nor how much should be allowed for waste. I would also like to know how to determine the percentage of twist take-up in ply yarns. (7663)

The denier of a yarn, as adopted by the Paris conference in 1900, is represented by the weight in five-centigram units of 450 meters or 492.12 yd. Accordingly, there are 20 deniers to a gram; and one pound equals 453.54 grams or 453.54 X 20 = 9070.8 deniers. The number of yards to a one-denier silk is found by multiplying 9070.8 denier by 492.12 yd., which results in 4,464.528 yd. Therefore the number of yards in any other denierage is found by dividing this figure by the denier.

Raw silk is very hygroscopic and in its driest state contains about 5 to 6% of moisture. It will absorb as much as 18% without showing signs of being wet, and its normal content is 9.91%. This represents a regain of 11%. The amount of moisture that silk in equilibrium with the surrounding air contains is a function of two variables—the relative humidity of the air and the temperature. For example: At 70° F. with a relative humidity of 40%, the

regain is about 9.5%; at 70° F. and 75% relative humidity, the regain is approximately 13%.

The amount of waste is largely dependent on what you produce and the care and supervision given to its production. Since you have not stated what your output is, it is impossible to give any estimates on this.

The percentage take up of twisted yarns may be determined by the use of a twist counter having a contraction-measuring attachment. This subject was extensively treated in TEXTILE WORLD, Jan. 14, 1928.

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White Spots in Silk Hose

Technical Editor:

We are enclosing herewith a stocking made of natural silk. When dyed, this stocking contains several white spots. The following procedure is used in dyeing: the stockings are degummed for 8 hr. in a wooden vat with a solution containing 10% of soap. They are then dyed in nets, the mesh of which is very loose. Finally the stockings are scrooped and boarded in a wet state. Do you think this method is correct? If not, will you be good enough to give us another one which will remedy this trouble? (7657)

Unfortunately the brevity of the information supplied in regard to dyeing and degumming makes answering of this inquiry rather difficult. We do not know whether you do your dyeing in a soap bath, in a fresh bath with glauber salt, or whether or not you use acetic acid along with the dyestuffs. Also it would interest us to know if you keep your goods at a boil in the degumming bath for the full 8 hr.

If you boil off your hosiery with 10% soap and keep this degumming bath at the boil for 8 hr. it is no wonder that the finished goods contain white spots. You have knit a very fine stocking, decorated it as well as the very best imported high-priced hosiery we have ever seen, and then you give it a treatment which would mar the appearance of the coarsest fabric.

The stocking submitted for inspection has no hard places or high splices in reinforcement; and 30 min. should be sufficient to completely degum it, provided, however, that enough of a good grade of olive-oil soap, or its equivalent of boil-off oil is used. A prolonged boiling is injurious to silk, and the streaks and white spots which damage this hosiery are the result of the improper treatment to which you have subjected your goods.

We suggest the following procedure to improve your work: Prepare a bath containing 20% of olive-oil soap and 2% of trisodium phosphate. Degum for 30 min. at 205° F. At the end of this time, take one or two stockings, and wash and board them to see if they are completely degummed. Assuming that you have a good supply of soft water, this should be the case. If they are not thoroughly degummed, a slight increase in the amount of soap is necessary to take care of what is lost in softening the hard water.

The hardness of the water for degumming may be corrected, due to the fact that you are using a wooden tank. Sprinkle some soda ash and some chipped soap in the vat full of water intended for the degumming. Let the water come to a boil, and skim off the white scum which will come to the top. This scum consists of the calcium and magnesium contained in the water. The water will now be soft, and the full amount of soap and alkali may be added and dissolved, and the goods immersed. If in 30 min. the hosiery is not soft and completely degummed, it may be worked for another 10 or 15 min., washed, and made ready for dyeing according to your regular method.

The loose mesh nets which you use are not the most suitable for such a fine grade of hosiery. Bags for this kind of work should be lined with cheese cloth, or should be made of fine muslin to prevent the goods coming in contact with the metal of the machine. By following the above procedure, you should be able to overcome your difficulties and produce a finished hose of the highest quality.

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Barré Marks in Rayon Voile

Technical Editor:

We are enclosing a sample of blue rayon voile. If you will hold this sample up to the light, looking through the goods, you will find a series of filling streaks which we have marked with red crayon (barré marks in filling). It has been suggested that this defect may be due to the quality of the rayon used in the filling or to some defect in throwing. We shall appreciate your opinion as to the cause and remedy of this defect. (7664)

A careful analysis of the sample submitted revealed that the rayon filling varied considerably in diameter. This alone might cause the barré marks of which you complain. An examination of the original yarn will reveal whether this is due to bad work on the part of the throwster or whether the rayon manufacturer is to blame.

The throwster could cause the trouble by a too vigorous treatment of the yarn. Should the rayon be frayed more in some parts than in others, it will result in uneven friction and hence uneven tension in the loom. Due to the elasticity of rayon, this uneven tension will be the indirect cause of the streaks noted in the sample. An uneven content of oil throughout the fiber is also detrimental.

We would advise a careful checking up of the looms to ascertain that there are no rough spots in the bobbin or shuttle and that the tension is constant. The humidity of the weave room must be constant from day to day as the elasticity of rayon varies with the amount of moisture it contains.

After ascertaining that the trouble is not in your own weave shed, we would advise your getting in touch with the rayon manufacturer and the throwster, who should cooperate with you.

Inquiries should give the fullest information possible; and if damaged material is involved, a sample should be sent. We give no consideration to anonymous inquiries and do not undertake routine analysis of yarn or fabric, or investigation involving unusual expense.

▼

Spring-Needle Knitting of Astrakhan

Technical Editor:

In making up various fabrics which are used in conjunction with our rubber footwear, and which are made on Tompkins spring-needle machines, we find the need of a certain fabric that we have found it difficult to produce. The fabric to which we have reference is astrakan cloth, a sample of which is being enclosed. We would like to make this cloth on the spring-needle machines. Our machines are from 12 to 28 gauge, and we are wondering if you could give us any information as to how we might go about making the astrakan cloth on these machines. (7658)

Knitted astrakans are classed as double plush fabrics. By double plush is meant the use of a face yarn, a backing yarn, and a binder or tying-in yarn, all on the same feed.

Standard astrakan is made on 14 gauge with every other feed plain knitting and the alternate feeds double plush. Either four or five feeds may be used. To duplicate the sample submitted, the following set-up is suggested:

Fourteen gauge; 6 feeds.

Feeds 1, 3 and 5 plain knitting; 2 ends of 1/8s cotton on each feed.

Feeds 2, 4 and 6 double plush; 1/18s cotton binder yarn; 1/18s cotton face yarn; 2/2½ worsted astrakan yarn.

Backing wheels blocked 3-1-1-1; each wheel set 2 needles behind previous wheel to give the diagonal as per sample.

Needles in cylinder exactly divisible by 6.

Variations are sometimes made to give a different handle, appearance, or finish to the cloth, such as varying the size of yarns used, using two ends on the double-plush feeds for the face yarns; using a single yarn instead of two ends on the plain feeds, blocking the backing wheel 2 and 1 or 3 and 1.

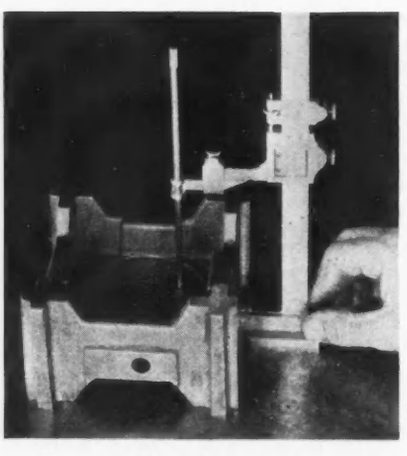
Full to bring out curly finish. The curling is accounted for by the difference in shrinkage of the various wools comprising the astrakan yarn.

New Machinery *and* Processes

Depth-Gage Attachment

ANNOUNCEMENT of depth-gage attachments Nos. 585-A and 585-B is made by Brown & Sharpe Mfg. Co., Providence, R. I. These attachments are designed for use with vernier height gage No. 585 in both the 10 in. and 18 in. heights.

The attachment is easily locked in place on the vernier by means of a clamp screw which can be seen in the illustration. The application of the attachment to the vernier height gage quickly converts this tool into a reliable and accurate depth gage. Measurements can be taken accurately over high projections and in deep recesses.

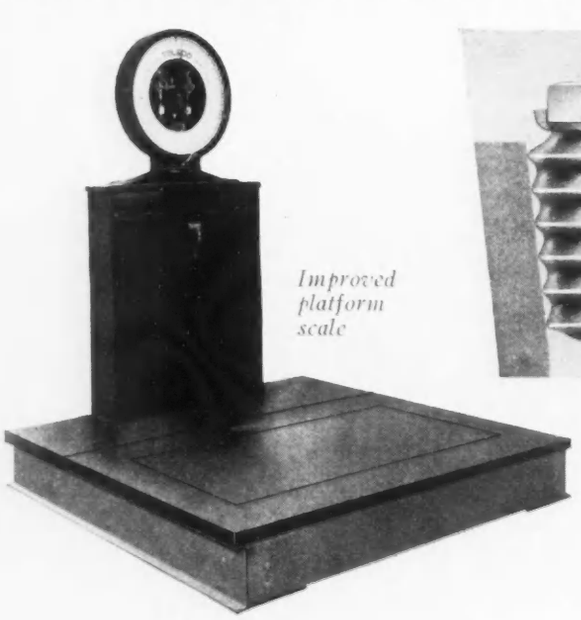


Gage used to take measurements over high projections

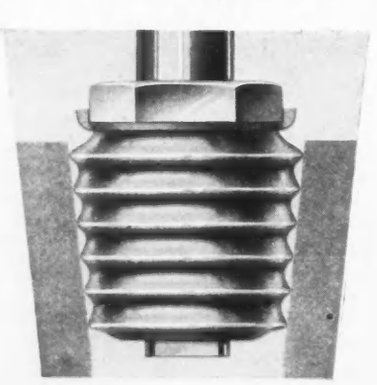
Heavy-Duty Floor Scales

ACCURACY, durability, and simplicity were the primary factors kept in mind in designing the heavy-duty scales produced by the Toledo Scale Co., Toledo, Ohio.

The manufacturers state that many improvements have been incorporated in this latest floor-scale development. Particular attention has been paid to the refinement of pivot and bearing assemblies, and the use of chromium plate and stainless steel has added to the durability and appearance of the instrument. It is interesting to note that this improvement in scale design is accompanied by a decrease in price.



Improved platform scale



Pressure and density are cut down gradually with multi-stage valve

Multi-Stage Valve

THE adoption of a new principle of valve construction is announced by Ludlow Valve Mfg. Co., Troy, N. Y. The heart of this valve is the multi-stage plug or cone which is corrugated with specially curved grooves in the side, forming a number of contact lands that seat against the converging wall of the outlet, as shown in the accompanying illustration.

The object of this construction is to facilitate the reduction of the pressure and density of the liquid in a gradual manner, thereby reducing erosion of the valve seat. It is believed that this change in construction will materially prolong the life and efficiency of valves, particularly those subject to high pressures and temperatures.

One of the specific applications of this principle is in the construction of blow-off valves, where two such multi-stage units are employed.

Spiral-Bevel-Gear Speed-Reducer

A NEW speed-reducing unit of the spiral-bevel-gear type has been announced by D. O. James Mfg. Co., 1114 West Monroe St., Chicago. The chief advantage claimed for this unit is its smooth, noiseless, and efficient operation.

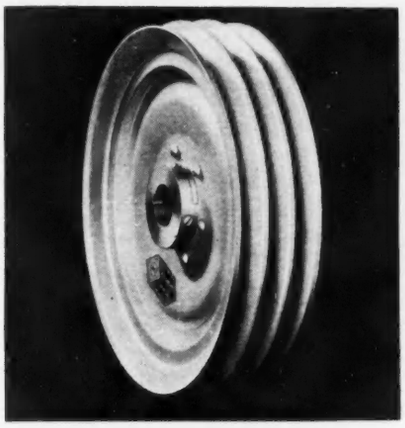
The gears are made of chrome-nickel and have an improved form of tooth which provides for a larger area of contact. Shafts are made of 40-carbon steel; roller bearings are provided on both driving and driven shafts.

Where large ratios of reduction are required, this type of reducer is made integral with a planetary reduction unit, so that all ratios from 8 to 1 to 1,600 to 1 are available. The reducers are made in sizes ranging from ½ to 100 hp. A well-designed housing is provided to prevent oil leakage and to insure against the entrance of dust and dirt.

Sheaves for V-Belt Drive

A PRESSED-STEEL Texrope sheave to meet the demand for a light weight, low-priced drive has been

Speed-reducing unit



Pressed-steel sheave

developed by Allis-Chalmers Mfg. Co., Milwaukee, Wis.

These sheaves are die pressed from tough steel and then each section is welded both at the web and at the rim with the object of eliminating all vibration and noise and to give an accurate balance for true running. They are manufactured in a large range of diameters, permitting ratios as high as 6:1, and are painted with aluminum paint to serve as a protective covering and to enhance the appearance.

Welded-Steel Gear Blank

ALL-WELDED rolled-steel gear blanks for use in the manufacture of cut gears are now being manufactured by Lukenweld, Inc., Coatesville, Pa. This blank, which can be employed in the manufacture of spur, herringbone and helical gears, can be made in any size from 24-in. outside diameter up. The largest, all-welded gear blank made up to the present time is one with a shipping weight of 4,350 lb. It is of $66\frac{3}{4}$ in. outside diameter, $11\frac{1}{4}$ in. width of face, $4\frac{1}{8}$ in. thickness of rim, and $22\frac{1}{2}$ in. diameter hub.

While the all-welded gear blanks are ordinarily made entirely from S.A.E. 1020 carbon steel, the rims can be furnished in steels of special analysis if desired.

The hubs of the all-welded gear blanks are first gas-cut from solid rolled steel of the thickness to give the desired hub diameters. The webs are gas-cut from rolled steel plate, as are the ribs, the latter being formed into channels of the required section. The webs are arc welded to the hubs, and the reinforcing channels are welded to the web structures. The final operation consists of the circular bending of the gear ring, and arc-welding in position to form the finished gear blank. Before shipment, all of the welded gear blanks are carefully and thoroughly annealed under pyrometric furnace control.

The manufacturers state that in the manufacture of all-welded gear blanks, no patterns are required, as the gas-cutting and arc-welding are done with blueprints of the gear design as the guide. This feature, in addition to elimination of the pattern cost, permits prompt manufacture and shipment, since no time is required for pattern-making. This time-saving is an important advantage in filling requirements occasioned by gear breakdowns.

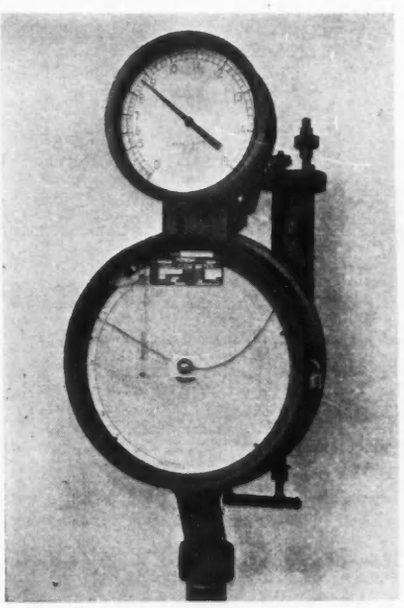
The major advantage claimed for the all-welded gear blank, however, is the purity and homogeneity of the thoroughly-annealed rolled steel from which the gear blanks are made. Rolled steel, as is well-known, is characterized by marked freedom from blowholes, gas pockets, hard or spongy spots and other defects. The gear rings, therefore, can be uniformly cut; and the cut teeth will be sound in structure.

Photo-Electric Lighting Switch

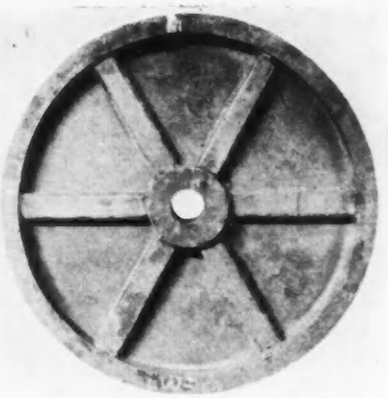
TO ENABLE the intensity of natural light to control artificial lighting automatically, a photo-electric lighting control relay had been developed by the Westinghouse Electric & Mfg. Co., East Pittsburgh, Pa. When the intensity of daylight decreases to a certain point, this device operates to turn on electric lights; and conversely, when the natural light increases to a certain intensity, it causes the lights to be turned off.

The operation of the lighting control relay is effected by variations in the intensity of light falling on a photo-electric tube. These variations produce proportional changes in the amount of current passing through the tube; and this changing current, amplified in a specially designed amplifier tube, energizes a primary relay controlling an auxiliary contactor, which, in turn, operates the main contactor controlling the lighting installation.

Automatic light-switch employs photo-electric cell



Combined recording, integrating and indicating flow meter



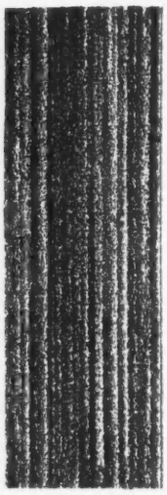
Hub, ribs, and webs are welded into one unit

Some of the many applications for this device are found in providing automatic control for lights in office buildings; show windows; signs; schools; and in floodlighting, street lighting, airport lighting, and navigation lighting installations.

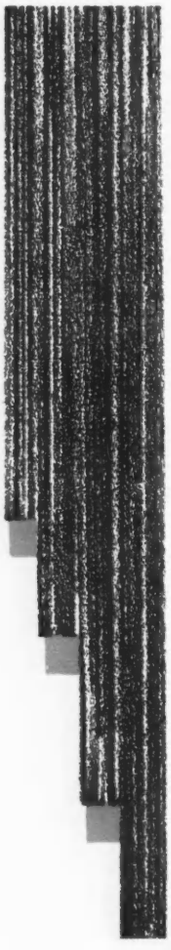
It is said that with a photo-electric lighting control relay installed in an office or a factory, variations in natural light can never interfere with good working illumination on any day of the year, since control of the lights is entirely independent of individuals' judgment, which is usually inaccurate. The manufacturers also state that the use of this relay effects savings in power and that it has been found in several installations that automatic control of factory interior lighting has saved approximately one-half of the power needed without such control.

Flow Meter

ADDITION of a combined recording, integrating, and indicating flow meter to its line of measuring instruments has been announced by the Foxboro Co., Foxboro, Mass. The meter has an 8-in. indicating scale mounted directly over the recorder case. The dial of the indicating instrument has the long, open, concentric scale; plain tapered pointer; and block numbers, all of which facilitate the taking of readings. The operator may obtain complete information from the instrument. The indicating scale gives him a reading of the rate of flow at a glance, the integrator furnishes him with the total flow for the period, and the recorder gives him a complete record of the flow throughout the process. The flow meter is applicable for use both in power plants and in processing departments in which the flow of any fluid plays an important part in the process.



Durene



NATURAL - BLEACHED AND COLORED YARNS

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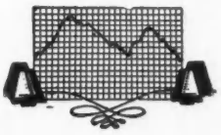
TEXTILE WORLD ANALYST



Cotton Estimated to Average about 7c. for Crop Year

By Dr. L. H. Haney

THE cotton crop estimate of 15,584,000 bales was larger than the trade expected, and resulted in sharply declining prices. This huge output at low prices tends to confirm the idea of a cheaply produced crop. Overproduction is also a common occurrence where price stabilization efforts have been attempted.

The Federal Farm Board is largely responsible for the plight of cotton growers, and now finds fault with the farmer for not curtailing production as it had suggested. The Board's position had been made more ludicrous by the recent uneconomic suggestion of destroying one-third of the crop. This proved to be a boomerang, for the counter suggestion was made that the Board should start by destroying its own holdings. What will be done with the 3,000,000 bales held by Government agencies and cooperatives has not been disclosed. No sustained strength can be expected in cotton so long as this huge supply overhangs the market. In this connection it is significant that the Board proposes to finance cotton this year at 1c. below the market, which compares with an advance of 90% last year when cotton was around 12c., and with a flat advance of 16c. the year before. The present terms are considered to be less liberal, but will tend to prevent further accumulation by the cooperatives.

Cheap cotton will tend to stimulate consumption and the stocks of cloth are low, but general business shows no improvement and demand conditions are not strong enough to improve replacement margins sufficiently to bring prosperity to the industry. If cotton bought below the cost of production does not leave the manufacturer with a profit, then either further increase in consumer demand must be awaited or curtailment must be practiced. Neither alternative will immediately help to strengthen the raw cotton market.

Bull Points

1. Ginnings to Aug. 16 amounted to 90,414 running bales compared with 572,810 on the same date last year.

2. The crop is late and, therefore, vulnerable to unfavorable weather and insect damage. In some sections weevil activity has increased, and cool weather and excessive rains have retarded growth. The crop is reported to have gone backward in South Texas.

3. Hedge selling pressure may be less than usual.

4. Exports during the last crop year were larger than the year before; low prices and good quality fiber should encourage foreign countries to further build up stocks.

5. The acreage in Egypt in 1931 is estimated to be 19.2% below 1930. A shortage of native Indian cotton is expected. The spread between American and foreign growths has been steadily reduced.

6. Japanese mill activity is expected to increase; Chinese exchange has improved; German banks are reopening; Great Britain is to bring emergency measures in order to keep finances in sound condition.

7. Stocks of raw cotton in consuming establishments at the beginning of August were the lowest for that date since 1928.

8. Consumption of raw cotton by domestic mills in July decreased less than usual, and was well above last year.

9. Stocks of carded sales yarns declined in June.

10. Spindle activity in July, adjusted for seasonal variation, was the largest since November, 1929; demand for yarns for men's wear is unusually good. Spinners' replacement margins improved during July and August.

11. Stocks of standard cotton cloths declined in July to the lowest for the season since September, 1927; stocks of finished cotton goods are low, and inventories of fine goods are reported to be small.

12. Orders for gray yardage for finished cotton goods in July were the largest for the season since January, 1930; orders were large compared with billings. The gray goods replacement margin has been better in recent months.

13. Tire fabric consumption is at a higher rate than last year.

14. Cotton is cheaper than wool.

Bear Points

1. The world carryover of American lint cotton on Aug. 1 was estimated to be more than 8 700,000 bales.

2. The crop estimate of 15,584,000 bales was larger than expected; only

Summary: **The crop is estimated to be the third largest on record and with an excessive carryover furnishes an unwieldy supply. Demand conditions are not strong enough to furnish a satisfactory margin to manufacturers even with cotton prices at less than production cost. For these reasons cotton is likely to average 7c. for the crop year, unless the crop estimate is later reduced.**

The analysis and forecast by Dr. Lewis H. Haney, director, New York University, Business Research Bureau, which regularly appears on this page, considers various branches of the textile industry from week to week. The conclusions reached in the Analyst are mostly forecasts and generally apply to a time two or three months ahead. The Analyst is based on statistical data and does not reflect temporary trade sentiment.

DIXIE *Durene* In Underwear for Men

DIXIE durene is proving profitable for knitters of men's underwear. Its dull sheen, pliability and evenness pave the way for new styles. Its absorbency and softness make a fabric that is comfortable for the wearer. Its strength and freedom from knots give wearing quality that brings buyers back for more.

Let a Dixie representative give you samples, put up especially for underwear knitters, for a trial run in your mill. You will find, as others have, that Dixie durene "makes good" knit into underwear for men.

DIXIE DURENE . . . A Product of Controlled Manufacture . .

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twice has the crop exceeded this amount.

3. The condition of the crop is above average and the yield per acre will probably be the highest since 1914. Some of the largest crops have been late crops.

4. The crop has probably held its own since Aug. 1, notwithstanding cool, wet weather and increased weevil activity in several sections.

5. The visible supply of American cotton in most European countries is above last year. Cotton is selling below cost, but August export demand is poor; the basis quoted for export is below that of shippers.

6. Increased hedge selling about due.

7. Domestic stocks of raw cotton are the largest in recent years; they are large compared with the current rate of mill consumption.

8. Reports from most European centers indicate hesitancy and poor business; Indian politics retard the sale of cotton cloth.

9. Unfilled orders for carded sales yarns declined in June; yarn prices have been declining since February.

10. Cloth demand is uncertain. Sales of standard cotton cloths were below shipments in July, and unfilled orders declined; jobbers sales in the New York district are very low.

11. The cloth replacement margin continues to decline.

12. General business recovery delayed.

Statistical Position

The developments of the last month have greatly weakened the statistical position of raw cotton, and no hope for higher prices is to be found now nor are prices likely to strengthen when the new crop is made. The domestic mill consumption for the 1930-31 season was 5,270,000 bales and the net exports were 6,758,000 bales, making a total disappearance of over 12,000,000 bales. The total supply for the season, including crop plus imports and over 100,000 bales for "city crop," was 18,400,000 bales. Thus the domestic carryover on July 31, was 6,369,000 bales.

Foreign consumption of American cotton ran behind exports, and as a result stocks abroad are larger than a year ago. The most liberal estimate of world consumption of American cotton is 11,100,000 bales. If we deduct the 5,270,000 bales consumed at home, we arrive at a figure of 5,830,000 as the total foreign consumption. Since net exports were 6,750,000 it is obvious that foreign countries have increased their holdings. The increase in the foreign and domestic carryovers gives a total world figure of at least 8,700,000 bales of lint cotton, —the largest since 1921.

Prospective Supply

But in the 1921-22 season there was a sharp reduction in the crop to 9,000,000 bales. Now we are faced with a prospective yield of 15,584,000 bales. If this quantity is actually gathered it will mean a total available supply for the 1931-32 season of at least 23,600,000 bales. Such a huge supply would be more than sufficient for world consumption for two years at last year's rate of consumption of American cotton.

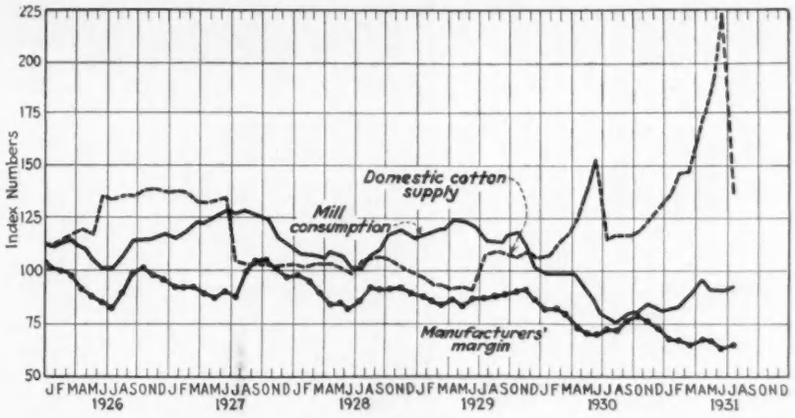

Fig. 1. GENERAL COTTON BAROMETER: Consumption—Average daily adjusted for seasonal variation, three-month moving average; Manufacturers' Margin—Average of replacement margins; Average Monthly Available—Net domestic available for crop year adjusted for seasonal variation. 1921-1926 = 100 for all indexes

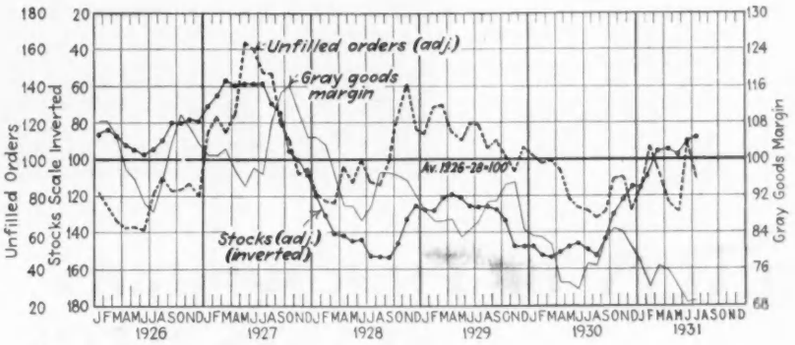

Fig. 2. COTTON CLOTH BAROMETER: Unfilled Orders, Stocks (inverted) Adjusted for Seasonal Variation, Association of Cotton Textile Merchants of New York. Gray Goods Replacement Margin Based on Textile World *Index. Average for 1926-1928 = 100 for three indexes.*

It is useless to try to forecast the size of the crop so early in the season, but it seems fitting at this time to estimate the average price level for the crop year. Such an estimate is tentative, and must be based on the assumption that the crop will approximate the Aug. 1, estimate. In the first place, the world carryover at the beginning of the 1931-32 season was more than 2,500,000 bales larger than a year ago. The new crop is estimated to be about 1,900,000 bales larger than last season. Thus the total supply of American cotton for the crop year may reach 24,300,000 bales. This would indicate a spot price at New York of something less than last season's average of 10.38c. In the second place, the demand appears to be subnormal, and general commodity prices have not yet stabilized. For these reasons the average price for the season will probably be lowered still further. This analysis suggests an average price for the season of 7c.

One hypothesis would be to assume an average price for the first half of the season of less than 7c., and then in the second half, as crop reduction and improved general business begin to appear more certain, an average above 7c. might be obtained. Therefore, a price below 6c. is likely this fall.

The domestic supply of cotton on Aug. 1, was the largest in recent years, even exceeding that of 1926. Average daily mill consumption increased more than usual in July and is reported to be holding up well in August. It was below the average for recent years, however, and except for July, 1930, was the lowest for any July since 1924. The replacement margin of the average manufacturer has varied closely with the index of mill consumption during the last few months, and moved upward in July. There are symptoms of reaction developing in the cotton industry which suggest that a normal demand cannot be expected for some time. The low margins do not furnish the basis for sustained expansion in activity, and for these reasons the supply available per month for the rest of the season is likely to increase.

Yarn and Goods

Replacement margins of gray goods and yarn manufacturers improved in July and August, but with increasing spindle activity and declining sales and unfilled orders of standard cloths, do not seem likely to be ready for a sustained upswing. The severe break in raw cotton has brought hand-to-mouth buying.

BEAUTY OF FINE HOSIERY STARTS WITH THE SPINNING...

Mercerized yarns in themselves are beautiful and when used with a silk construction in full fashioned stockings, not only maintains its beauty, but adds to the strength of the stocking as it forms the foundation on which the stocking is built. Be sure you use Boger & Crawford's mercerized yarns which have the right strength, proper elasticity and uniformity.

For prices and samples, write to J and East Venango Streets, Philadelphia, Pa., or Lincolnton, N. C.

Mercerized *Natural* *Gassed* *Preshrunk* *Bleached* *Colors*

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YARNS AND RAW MATERIALS

TEXTILE WORLD ANALYST

◆Cotton Yarns Find Inquiry at a Price

THE cotton yarn market is still working toward stability. It has not yet attained that position, but it would seem to be gradually approaching that point. Prices in the meantime reflect the situation and therefore are still practically nominal. Spinners are showing firmness in their quotations, and in many cases offers submitted are being refused unless they are within reason, and deliveries are satisfactory. The average spinner is interested in orders which call for deliveries within 60 to 90 days. Anything beyond that period as a rule they are likely to decline.

Interest in yarns is reported to be rather satisfactory. The bulk of the inquiries are for prompt shipments, either out of stock or from the mill. Many houses soon find visible supplies of staple numbers exhausted. In certain cases, yarns are diverted from a later delivery to meet immediate requirements of another customer whose stocks are used up. Frequent revelation of short supplies in users' hands is regarded as a favorable sign.

There are also many inquiries for yarns for late delivery where manufacturers are convinced it is advisable to take advantage of prevailing prices. Many of these inquiries are accompanied by prices too low for any consideration by either dealer or spinner, such as 15c. for 20s-2 warps. With reports of 16½c, the average price today is 17c., which is the lowest quotation made by spinners from all accounts. A sale of 20s-2 skeins was made at 17c. This situation indicates the extreme condition of the market, as some of this future business is being booked in quite a sizeable volume. Although prices are not always disclosed, it is believed they are not far from prevailing quotations, with the exception of a few transactions which are evidently cases of short sales. The average low quotation from spinners on 30s-2 warps is 21c., with buyers trying to place orders at 20 to 20½c.

In carded knitting yarns, heavy weight underwear manufacturers have been showing interest in yarns with 10s frame spun at 14½c. and 18s at 16½ to 17c. They are also giving evidences of a refusal to make any further revision of prices on their contracts for goods. If this position is maintained, it should prove to be a stimulating factor to that branch of the industry.

Combed yarns are showing their share in interest and dealers report opportunities for business, although frequently at a price they do not care to accept. Single 12s are noted at 22½c., 18s at 24c.; 38s at 35 to 35½c. Ply yarns are reported holding well to the list shown on page 78. New business on mercerized yarns is rather limited. Full-fashioned hosiery mills are not very active.

◆Cotton Fairly Steady In Narrow Market

THE cotton market has been comparatively quiet and rather irregular during the week. After the technical rally which carried the price of December contracts up from the low record of 6.79 established on Aug. 20 to 7.45 for that position on Aug. 29, the market seemed inclined to await further developments. If anything, the widespread agitation for relief of the cotton grower and to insure a reduction in next season's acreage, has had a tendency to restrict business. The lateness of the crop and the slow movement to market with a correspondingly light volume of hedge selling here has been reflected in a scarcity of contracts which has made the market responsive, at times, to comparatively small buying orders. On the other hand, better weather in the South during the earlier part of the week and the continuing influence of the Aug. 1 crop indication has brought in some selling on the advances. On the whole the market has seemed inclined to wait for the next Government crop report, scheduled for publication on Sept. 8.

The private reports so far issued have failed to cause any closer crystallization of sentiment in this respect. One of the private trade authorities that has been issuing condition reports for many years was, in fact, one of the very first of the New York firms to undertake monthly reports on condition, placed the end-August condition at 67.6 compared with 70.6 at the end of July. This reflected deterioration of only 3 points for the month compared with the ten-year average of about 11 points. This report carried no crop indication figure. A prominent Chicago authority estimated the condition of 67.1 against 70.6 last month and placed the crop indication at 15,512,000 bales. A third report made the condition 63.8 and the indicated crop 15,687,000 bales, while a fourth in sharp contrast placed the condition at 66.8 and the indicated crop at 13,605,000 bales. These small figures were accompanied by a statement that they represented an estimate of the crop and not a guess as to the showing of the next bureau which would probably show little change. On the whole, local traders are not inclined to expect much change in the indication as of Sept. 1 compared with the Aug. 1 outlook and a canvass made in New York Cotton

(Continued on page 75)

◆Worsted Yarns Show More Firmness

PRICES for worsted yarns are apparently holding better to the new levels recently named by most spinners, although the volume of new business is reported limited. Occasionally sales are reported at prices below prevailing quotations, but it is usually found that circumstances surrounding the transaction had something to do with the price. For example, with single 26s for jersey cloth, usually quoted at $1.02½ to $1.05, a sale reported at 97½c., was found to be really of a lower grade stock than the average product.

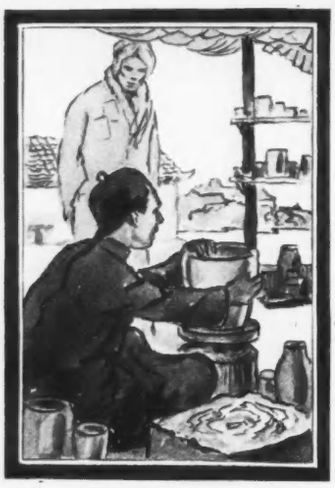
There are certainly sufficient reasons for spinners to maintain their prices. Wools continue on a firm basis; spinners trying to locate wools at a price say they are not very successful. In addition, the commission combers are so well rushed with work, that those spinners seeking to place orders for such work are finding themselves in an awkward situation to maintain a steady supply of tops for their spindles. Last but not least, spinners for the most part report a good volume of business on their books so that some departments are running full, or overtime. Leading spinners even now refuse to shade their asking prices in view of their confidence in the trend of business.

Although new business is reported in limited volume there is a well-maintained buying in small lots to fill in. This is well distributed through the knitting trades especially for such products as sport coats, dresses, sweaters, infants' wear. Bathing suit manufacturers are not buying to any extent at this time. While it is expected their business will open out in November, the worth while volume of business will not likely come before December and January. Bulk business on sport coats is not expected before middle of month. Some buying for jersey cloth is reported down East, and in and around New York, with single 26s held around $1.02½ to $1.05. Single 20s French spun, 60s quality, knitting yarns are noted at $1.15 to $1.17½, with 64c. quality at $1.20. Some knitters are using the lower grades instead of full 64s because of price. For 2-20s, high quarter, 80 to 82½c. continues to be quoted generally.

Weaving Yarns Waiting

Weaving yarns have not yet developed any volume support. Manufacturers of both men's wear and dress goods are still awaiting orders to know what their yarn requirements will be. The duplicate business in men's wear is a thing of the past; it is expected new lines will develop a quick volume of business sometime in September. In

SECOND ONLY TO CREATIVE GENIUS IS THE CHOICE OF WORTHY MATERIAL



OF ALL THE CLAYS, ONLY THE FINEST WILL MAKE PORCELAIN

In the 9th century, Suleiman the Arab, in an account of his wanderings in China, mentions porcelain:

"They have a fine clay, from which bowls are made, and in the transparency of the vessels, the light of the water is visible. They are of fine clay."

Only the finest wool and cotton measure up to Whitman standards

Not only must raw materials for Whitman Yarns meet definite trade classifications, but they also must come up to our own even more exacting technical requirements. Selection of material, as practiced by the Whitman group of mills, precludes inferior cotton and wool entering into the manufacture of Whitman Yarns • As this selected raw material is transformed into the finished yarn the exactness of each succeeding process is controlled by constant test. These tests are made by the individual mill's laboratory staff, specialists in yarn production. And, that nothing may be lacking for a complete knowledge of conditions, the facilities of the Arlington Mills chemical laboratories are available to all members of the Whitman group • Scientific methods, modern equipment and a broad experience in trade requirements enable us to offer you the utmost assurance of excellence in a wide range of yarns.

Co-ordinating the services of this group of famous yarn mills:

MONOMAC SPINNING CO.
French Spun Worsted

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YARNS AND RAW MATERIALS

TEXTILE WORLD ANALYST

the scattered buying noted are 2-40s, 60s quality, at $1.35; 2-30s, 60s to 64s, in fancies at $1.30 to $1.35, with French spun yarns up to $1.40. Dress goods developments are still too indefinite for manufacturers to know what they will need. Business has been spotty, with sales of 20s to 30s cut in colors around 95c.

◆Wool Demand Seasonally Quiet

THE price situation in wool has been stationary throughout the week, the few recorded advances being made on particularly choice lots in urgent demand. Many houses are still well behind deliveries on graded wool. The bulk of demand on greasy combing domestic wools is on original bag offerings of 64s and finer Western grown lines. Prices on these wools are generally steady.

There seems neither disposition nor necessity for wool sellers to shade prices. What may occur in the period after Labor Day is all conjecture, but there is no thought of any lower level being forced, even though demand continues easy for a period. Topmakers are exerting some pressure on the market but domestic values are so well below importing point that most wool holders remain confident. Mills seem to be fairly well covered on wool for near needs yet the raw material in all grades continues in moderate demand at firm prices, particular strength being seen in three-eighths blood fleece and territory owing to continued demand.

The average price of fine and fine medium Montana and Ohio three-eighths and quarter-blood wools is now about 11% lower than in January and as compared with a year ago is approximately 20% lower. Some houses have had business during the week on a clean basis of 57 to 58c. for Montana and Wyoming and at 55 to 57c. for Utah, Nevada and Oregon wools. The objective of 60c. on original bag wool has not been reached. In territory wools, other than fine original bag, half-blood and fine graded combing wools are comparatively neglected. Demand from the knitting trade for three-eighths blood is keeping up well but quarter-blood is slower.

◆Sluggish Movement in Substitutes

NO SPECIFIC change for the better has occurred in the general wool substitute situation during the week. Prices are low all along the line but demand continues sluggish. Mill buying is strictly hand-to-mouth and whatever business is placed is accompanied by a demand for very prompt shipment. Orders during the last few days have been directed to the cheaper rags such as dark merinos, worsteds and thibets, also small orders for the serges and black and blue worsteds, the regular blue serge around 5.50c. and fine blue worsteds and 6.50c. The market as a whole is dull but hopeful.

Rag merchants and others are involved fully in the general depression still characteristic of the woolen branch of manufacturing but are keeping their assets as liquid as possible although there are some large accumulations, it is believed, of rags for which there has been practically no demand for weeks.

The noil demand is very slow, prices favoring the buyer but little interest is shown by consumers at this time. Dealers are showing more resistance to low bids.

The wool waste market is carrying on amid a set of circumstances quite unfavorable to any immediate expansion in demand and yet it manages to keep in a fairly good position. Few dealers have more stocks than they can carry.

◆65% Rayon Now Going to Weavers

THE rayon industry enters September in a very firm position so far as demand is concerned. Manufacturers indicate by their increase future coverage that they realize the likelihood of a shortage within the next two months, and they are buying freely. This applies to all major outlets, even rayon flat crepes, which division has been sluggish for some months. Yarn demand from weavers of flat crepes is still backward but shows gain and rayon producers look for bigger call from this industry after Labor Day.

Current yarn business covers requirements for September, October and November; manufacturers are still hesitant about December but will probably do some active December buying next week. A few end-year orders already have been placed. Weavers have outdistanced knitters in rayon purchases during the last ten days, and producers estimate that 65% of current demand comes from the former group; cotton weavers are particularly active in output of fabrics of rayon content; demand from underwear knitters is steady. Current demand centers on the 100 to 150 deniers; stocks in producers' hands are close to sales and there is shortage of numerous popular numbers; a week to ten days is asked for delivery even of small orders of these deniers.

◆Good Call Raises Raw Silk Prices

INCREASED demand from broadsilk mills and a strengthening in Japan combined in bringing an advance in raw silk prices this week. The rise affected all grades; 13/15s went up 15c., 20/22s went up 10c. on whites and 5c. on yellows; 14/16 Cantons moved from $1.75 to $1.85 and Canton 20/22s from $1.65 to $1.77. Importers are encouraged by the advance though few of them look for much higher levels. Further tightening depends largely on the American demand. At present weavers are covering actively, especially on 20/22s and stocks are limited. Cantons are the firmest of the field and manufacturers find difficulty in getting adequate stocks quickly, due to the small supplies available in New York.

Importers get a profitable margin on such Canton stocks as they have on hand and in some cases premiums are paid above the advance. Manufacturers are less willing to pay the higher rates for Japan silks and current business is usually marked by bargaining. Broadsilk mills are undoubtedly in need of stocks, however, and more and more are finding themselves compelled to cover. Production of fall fabrics to meet reorder call has increased; output is well behind other years but has jumped materially in the last week. Importers hear of a better outlook in silk goods.

◆Thrown Silk Demand Improves

SEPTEMBER brings improvement in the silk yarn situation. Throwsters note increased interest among both weaving and knitting outlets. Broadsilk manufacturers place a moderate quantity of spot business and are talking of starting spring production; yarn men look for a spurt in coverage at that end after Labor Day. Reports reach the thrown yarn market to the effect that georgettes promise well for spring in the fabric field and this has encouraged throwsters as indicating a good movement of crepe yarns during the coming season. The tone of the thrown silk market is considerably stronger; movement at this end has been conspicuously bad during the last six months and yarn men look for a real improvement this month.

Spinners find little change in outlook. Current buying comes almost entirely from woolen and worsted mills some companies state, and this business is small. Broadsilk mills are holding off due to cautious output of winter lines.

A tiny thread snaps . . . and a huge loom goes dead . . .

When a loom or knitting machine stops, even for a minute, overhead rides merrily on, piling up costs. Trace several machine stops to their source. And if you go back far enough, you'll often find the cause in weak, uneven yarn.

A number of mill men have done so. And, ever since, they insist on Quissett Yarn. Because rarely, if ever, can you lay machine stops to the door of this yarn.

Quissett is strong. Check its breaking strength on your own tester—compare it with other yarn. The twist is always right, always uniform. It keeps production costs low, and thus has a big hand in widening your net profit.

Your first lot of Quissett will show you how machine stops are cut down. You can get Quissett spun from Egyptian, Sea Island, Peeler, Sakelarides or Peruvian, carded or combed, in all numbers, plys and put-ups. Send for your samples.

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New Bedford, Mass.
Wm. M. Butler, Pres.
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Our quotations based on
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FABRIC MARKET REPORTS

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◆Cotton Goods Steady and More Hopeful

BUYERS have been continuing their efforts this week to drive the gray goods market down to rock bottom. Reports current in Worth Street are to the effect that sellers generally are firm and as a result little business has been done on the whole. Sales are chiefly for nearby, with the unsettled battle-ground between buyers and sellers the last quarter of the year.

Optimism is more evident this week than at any time since the cotton break. Recognition is given to the fact that, at the present low prices of cotton, more extensive use of cottons will be stimulated and particular uses which have been impractical heretofore are now opened up to the distributor. After the shock to the market's confidence has been passed it is believed that a goodly yardage will be sold. After Labor Day is specified as the time when pent-up orders are expected to break loose. In anticipation of this the market has held with remarkable firmness.

The state of affairs is well summarized in the recent market letter of the Hunter Mfg. & Commission Co. as follows:

"Buyers have been impressed by the steadiness of the market during August and are showing a willingness to place orders for spot and September deliveries at current prices though still disposed to await further developments before buying largely for the last quarter of the year. This policy is agreeable to the mills, too, because for the moment the raw cotton situation is much obscured by all sorts of half-baked cures and nostrums suggested by people who have not given thought to the matter in a thoroughly economic way nor considered the subject of other cotton producing countries.

Quack Remedies Hinder

"Sooner or later cotton, like wheat, rubber, coffee or any other staple commodity, must stand on its own feet, and the matter of supply and demand left to regulate itself in a natural way which it is bound to do in the end and, in the meantime, palliatives and quack medicines only delay the return to sound business and make it all the harder for farmer, manufacturer and merchant to see things in their true light.

"We wish that the Farm Board could come to some definite decision as to its intentions regarding the disposal of the cotton it and its affiliated bodies hold. The suggestion that it be sold at a fixed rate per month covering a period of several years, or something along these lines, sounds reasonable to us."

Several of the larger mills have priced yarn-dyed goods this week. In some quarters staple ginghams are off ½c. and dress ginghams off 2 to 2½c.

Interest in fine and fancy goods has been a feature. Cottons are on the road to better business even than heretofore in the women's apparel trade. Rayon combinations and all rayon fabrics are prominent, but there is a tendency among buyers to use the lowest grades.

◆Some Wool Goods Prices May Advance

WOOLEN and worsted fabric mills are still getting considerable fall business. Some firms which have had numerous cancellations of men's suitings contracts deprecate the extent of this development, claiming that new orders are practically equal to the cancellations. A notable feature of the week is the improved call for women's goods. Boucles have picked up and demand is in excess of stocks on certain preferred fabrics. The call is chiefly for diagonals in conservative design, and brown leads the colors with green second. Weavers of women's lines are encouraged by the increased buying and they look for a steady turnover through September; indications point to a late season; some mills expect women's goods to continue moving up to Thanksgiving.

Good Turnover on Men's Suitings

The fall turnover on men's suitings is better than had been expected and here too a protracted season is looked for. It is difficult to gage carryover prospects as yet. Cancellations undoubtedly have been numerous, but spot or nearby buying is steady; neither cutters nor the retail piece goods trade have any great stock on hand, so will be obliged to reorder actively once co'd weather spurs demand.

Spring's openings present a mixed picture so far as prices are concerned. Several mills indicate they will advance prices on three-eights when they show their lines about Sept. 15. Just how general this tightening may be it is difficult to say. Weavers claim present levels of raw wool mean selling fabrics at a loss unless they advance. It is not likely this will offset the expected 5% drop, especially if the principal companies announce a cut.

Cutters and retailers show more interest in the coming openings. Despite this being a holiday week, mill agents received numerous inquiries, and they are hopeful of a fair response to the new lines.

◆Broadsilk Call Lightens; Tone Firm

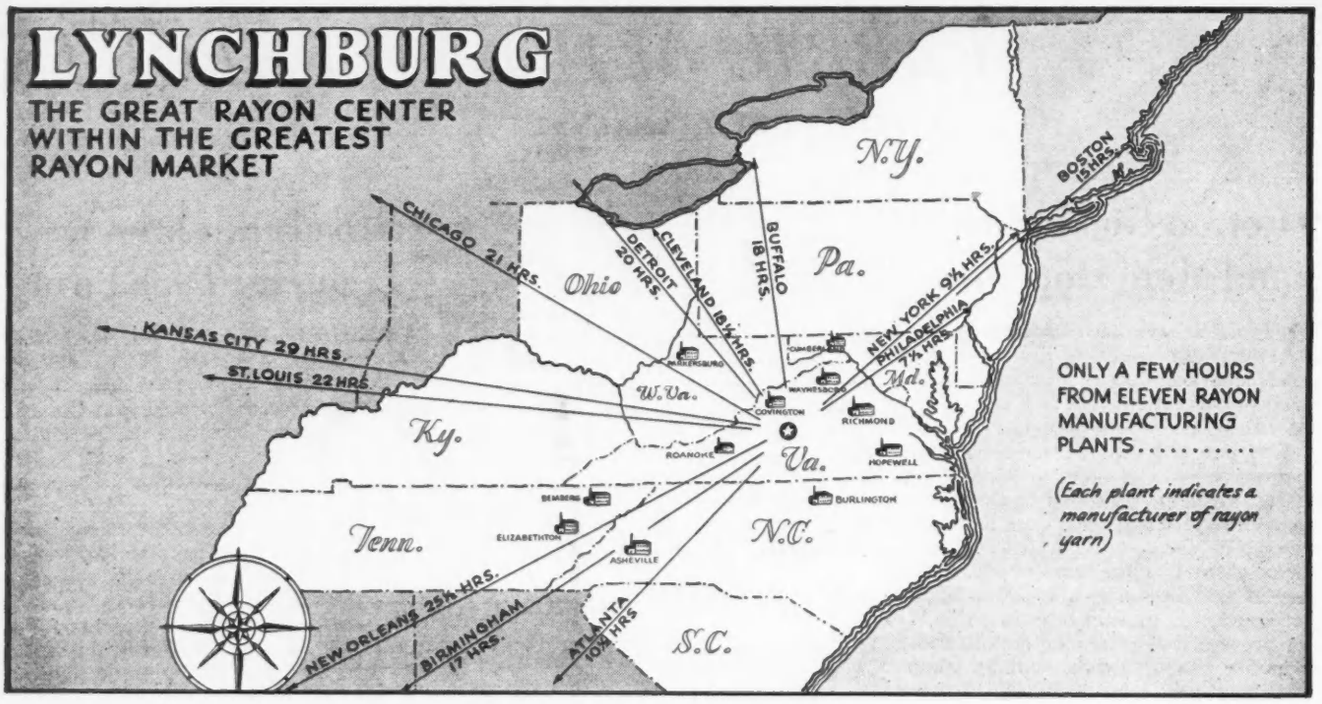
A SLIGHT let-up in demand for broadsilks is perceptible in the New York market but this is the usual hesitancy that precedes a holiday. Cutters and retailers both show an inclination to hold off further coverage until after Labor Day. The slackening is uneven, some mills keeping very active on all the fall fabrics. The call for transparent velvets, while lighter than two weeks ago, is still spirited and mills are asking some weeks for delivery. Sheerpiles are outstandingly the strongest line in the broadsilk industry this fall; they are the envy of the trade, due to the firm prices and the excellent turnover. Indications point to an easy two weeks for sheers which should be followed by a gradual increase of reorder business.

Mills specializing in satins and cantons have done good business in the last ten days and they hope for a little further activity prior to Labor Day. Prices of both satins and cantons are steady, for the most part. A few mills having substantial stocks of satins pared down their levels last week but demand is strong enough and stocks as a whole are light enough to offset this weakness. Leading producers find little difficulty in getting list for all satins. The call is chiefly for dark shades with pastels gradually coming to the front for winter evening wear. Manufacturers of satins and cantons commented this week on the contrast between that end of the business and the velvet field. "The pile houses show the value of concerted action and are enjoying good business at excellent margin because they are industry-conscious," one factor commented, "We could get the same result at the canton and satin end, if we followed their example."

Broadsilk market tone is satisfactory. Volume will shade off due to turn of the month but September prospects are regarded as unusually good. Provided mills hold down on production, the silk weavers may enjoy a profitable fall season.

▸Army Asks Bids for 5,000 Yds. Shirting Flannel

The Quartermaster Depot, U. S. Army, Philadelphia, has invited bids for 5,000 yds. shirting flannel, slate blue, 10-oz. 56/58-in. width. Samples must conform in every respect to requirements of U. S. Army Quartermaster Corps specification No. 8-54A, except that same is to be slate blue instead of olive drab. Bids will be opened 10 a.m. Sept. 15.



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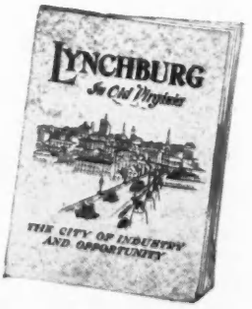

LYNCHBURG CHAMBER OF COMMERCE
LYNCHBURG, VA.

LYNCHBURG - IN OLD VIRGINIA

KNIT GOODS MARKETS

TEXTILE WORLD ANALYST

◆Fall Underwear Moves Unevenly

HEAVYWEIGHT underwear sales are good but uneven; some mills are booked solid through September while others have no difficulty in shipping on ten days notice. The cold weather of the last two weeks has proved less of a stimulant than knitters had hoped. Orders are fairly numerous but all are small and prospects point to a heavy reorder business at the end of September. Prices hold steady for the most part, thanks to a healthy stock situation.

Buyers continue to place spot orders for lightweights, both cottons and rayons. They follow the hand-to-mouth policy so strictly that sales probably will be coming in right up to the 1932 openings. Some mills have their sample lightweight lines ready for the new season but it is unlikely that any appreciable part of the industry will show these until after Labor Day. Manufacturers of both medium and heavyweight underwear report further trend to the former this year, and it is possible that this season may find more mills dropping heavyweights in favor of sweater production.

◆Spirited Call for Winter Sweaters

HEAVYWEIGHT and medium-weight sweaters both are in spirited demand with stocks inadequate to sales and mills obliged to ask four to six weeks for deliveries of popular models. Agents are little encouraged by the last-minute rush as it means considerable loss of business both to manufacturers and distributors. Jobbers and retailers put off buying so long that now they find themselves within a couple of weeks of their season, and only meager stocks on hand.

Swimsuit 1932 Plans

Swimsuit producers have practically completed plans for opening of the 1932 lines. Dates of showings are in doubt; it is expected that some lines will be displayed next week but most mills probably will wait until after Labor Day. The chances are the entire trade will have opened by Sept. 15. It is regarded as certain that prices will be at least as high as last season.

Knitters say that any offerings below the current levels will necessarily be for inferior merchandise as the margin at present is at bottom. The trade hopes for an upward revision but the chances for a rise are slight due to the competitive situation. An advance would be technically sound considering the excellent volume in prospect, and it would be just enough, knitters say, as present levels are not profitable. There is always the possibility that leading units might be bold enough to take the initiative but failing that, the market is resigned to another season of plentiful business at low return. Manufacturers have begun getting inquiries about new lines and a fair amount of business is expected to be forthcoming when all lines have opened. Real volume on 1932 swimsuits is not looked for prior to November.

◆Full-Fashioned Hosiery Trades Up

LEADING full-fashioned hosiery manufacturers note a trend toward trading-up in current demand. This tendency first showed itself some weeks ago, but during the last ten days it has been particularly evident and is regarded as signalling a consumer preference for better quality.

The trend as yet is far from general; full-fashioned sales are still overwhelmingly a price proposition; however, some mills offering both the low-priced and medium-priced lines find the movement of the latter group is better than at any time since the depression. There is plenty of distress full-fashioned stock available at bargain levels but it does not clear as swiftly as before; distributors are inclined to be critical of yarn and construction and are more willing to shade up their prices to get desirable merchandise. The trade-up tendency finds some confirmation in the fact that stocks of full-fashioned made to retail at $1.35 to $2.50 are short, and mills have difficulty in meeting demand.

Better Goods Sell Better

The New York manager of a leading full-fashioned mill said this week that he could meet any demand for the low-priced lines, but was asking time on orders for medium-to-high priced numbers. Market regards it as significant that retailers are cutting down their advertising devoted to the 69c. and 79c. hosiery and are actively promoting the quality lines.

Hosiery outlook is somewhat improved and prices are steadier though there is much doubt about the prospects for an advance. Mesh lines are in good call; indeed buyers show interest in all novelty offerings. Half-hose is still moving actively but invariably at the low-price end and all trading is of the bargain type. Price remains a ruling element in demand for men's hosiery.

◆Raw Cotton Reports

(Continued from page 69)

Exchange members during the week showed an average expectation of 15,572,000 bales.

The Farm Board through its cotton member, Carl Williams, has stated that the Board has no intention of buying cotton to stabilize the market. Traders are not impressed by the probability of acreage controlled by legislation, but there is a more or less general feeling that a continuance of low prices would bring it about voluntarily.

Scant Trade at Memphis

MEMPHIS, TENN., Aug. 31—Inquiry for new crop specialties is brisk in the cotton market here but little actual business is resulting. The lateness of the crop in this territory may account in part for scant forward bookings. There are many uncertainties ahead which may affect the yield, making shippers cautious and not yet ready to meet mill ideas as to basis.

First bales have been received from Mississippi and Arkansas but movement is not expected before another 10 days at least. The first picking is likely to be slow because of heavy foliage. As predicted, off differences on good ordinary and strict good ordinary have been narrowed 25 to 50 points and further narrowing is expected; this due not to belief that low grades will be scarce if harvesting approximates completion but to the idea that, with normal off differences from present or lower levels, low grades will be left in the fields. Because of lateness, the large plant and the disinclination of growers to hire pickers the harvest is likely to be long drawn-out, resulting in weather damage and, perhaps, considerable abandonment.

◆Cotton Wastes Continue Dull

COTTON waste consumers are showing a little more interest in certain types of waste, but the volume of business moving is still far below normal for this period of the year. Low bids are turned down and the prospective purchaser withdraws from the market entirely.

Prices are quotably unchanged. A few lots of peeler comber were sold to mills this week at 5¾c., with choice peelers held at ¼c. more. Good white upland wastes are in relatively active demand, consumers paying as high as 6c. for strictly No. 1; average qualities can be bought at 5 to 5½c. The stuffing wastes, picker and fly, and threads are sluggish and prices are largely nominal.

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Many companies in the textile field find Teletypewriters equally valuable. Your local Bell Telephone Company will gladly study your communication needs to determine whether they could be of similar value to *your* firm. Just call the Business Office.

* * *

**Teletypewriters flash written messages directly from one office of a company to another, whether they are 300 feet or 3000 miles apart. A message typed on one Teletypewriter is identically reproduced at the same moment on all connected machines.*

TEXTILE FINANCIAL NEWS

TEXTILE WORLD ANALYST

◆Merger of Three Fine Goods Mills Proposed

STOCKHOLDERS of three New England fine cotton goods mills have been asked by their directors to vote in favor of merging. The mills involved are the Queen City Cotton Co., Burlington, Vt., Pilgrim Mills, Fall River, Mass.; and Pemaquid Mills, New Bedford, Mass., equipped with a total of approximately 151,000 spindles and 3,000 automatic looms.

Terms of the merger, subject to the findings of a final audit of the three companies, are as follows: For each share of Queen City, 1⅛ shares of the new corporation; for each share of Pilgrim, 2 shares; and for each share of Pemaquid, ⅛ share. Through the exchange the new company will have an initial capitalization of 49,000 shares. A consolidated statement as of June 30 last shows total current assets of $1,178,072, and current liabilities of $211,631, leaving net working capital of $966,441.

In commenting on the proposed merger, B. H. Bristow Draper, president of Queen City and Pilgrim mills said in part: "All three mills are fine goods mills, manufacturing similar fabrics. Under the plan of consolidation greater economies of operation can be secured by concentrating different fabrics in separate mills under full-time operations and, in addition, the size of the new corporation should enable it to secure better management, both on purchasing, production and selling, than any one unit could afford."

Stockholders of Queen City Cotton Co. will act on the proposal on Sept. 24, and those of Pilgrim Mills on Sept. 26. Pemaquid Mills is a close corporation, owned by the Charles L. Harding interests.

Master To Hear Whitman Case

Thomas R. Bateman, a lawyer of Boston, Mass., has been appointed by the Superior Court to hear the bill in equity brought by Jacob Genensky of New Bedford, minority stockholder, against the Whitman Mills, Inc., New Bedford, Mass., Charles L. Harding, its president, and Harding, Tilton & Co., Inc., of Boston, its former selling agent. The bill asks for appointment of a receiver for the mill, that Harding be enjoined from proceeding to liquidate it, and that Harding-Tilton be made to account to the corporation.

Warwick Mills Change Capital

Stockholders of Warwick Mills, cotton goods, West Warwick, R. I., have voted to accept the plan of directors increasing the authorized capital stock of the company by 16,000 shares of participating preferred stock and 16,000 shares of common stock, both without par value. Warrants will be issued to stockholders giving each the right to subscribe for as many units of the newly authorized shares as he now holds shares of the present stock, each unit consisting of one share of participating preferred and one share of common, the subscription price to be $50 per unit. The warrants will expire on Sept. 14, 1931.

McMahon Heads Berkshire

At a meeting of the board of directors of the Berkshire Fine Spinning Associates, Inc., held at the office of Phillip Stockton, president of the First National Bank, Boston, on Sept. 1, Gilbert T. Thompson, president of the company resigned and John McMahon, vice-president in charge of manufacturing, was elected to succeed him. Mr. Thompson hereafter will be chairman of the board succeeding General C. H. Sherrill who resigns the chairmanship to become a vice-president.

Mr. Thompson, who has been in ill health, has been president of the company since its formation early in 1929. Previously he had been president of the Berkshire Cotton Mfg. Co.

Mr. McMahon, the new president, had previous to his association with Berkshire been agent and secretary of the Valley Falls Co., Albion, R. I., and treasurer of the Fort Dummer Mills of Brattleboro, Vt. Both of these companies were taken into the Berkshire at the time of the merger.

Mallinson Shows Loss

H. R. Mallinson & Co., Inc., reports for the six months ended June 30, net loss of $464,738 after depreciation, interest, etc., against net loss of $374,286 in the first half of 1930. Current assets totaled $1,374,916 against current liabilities of $772,414, compared with $4,143,955 and $2,059,881, respectively, in the corresponding period last year.

Dividend to Globe Creditors

H. C. Moore, trustee of the bankrupt Globe Mfg. Co., Gaffney, S. C., has been authorized to disburse to creditors a 3½% dividend, making the second dividend paid out since the properties were placed in trusteeship. The first dividend was 7%. Mr. Moore states that in all probability a third and final dividend, 1½%, will subsequently be paid making in all a total of 12c. creditors will realize on the dollar.

▶Georgia Textile Legislation Killed

None of the measures affecting the textile industry in Georgia were passed by the 1931 legislature, according to reports from Atlanta. Among the measures killed in the general assembly were (1) a workman's compensation bill which would have increased the workmen's minimum compensation from $4 to $6 a week and increase the maximum medical allowance from $100 to $200; (2) an hours of labor bill that would have set a limit at a 10-hour day and a 55-hour week, and (3) a measure forbidding night labor for women and children in the textile mills of the state.

▶Textiles on N. Y. Exchanges

The following shows the movements of the leading textile stocks listed on the New York Stock Exchange and Curb for the week ended Sept. 1

	High	Low	Last	Ch'ge
Adams Millis	33½	30½	32½	+2½
American Thread, pfd	3¼	3⅛	3⅛	+⅛
American Woolen	8	7⅞	7⅞	—⅛
American Woolen, pfd	35½	33½	34	....
Belding-Heminway	6	5⅞	6	+⅛
Botany Mills, A	2⅛	2⅛	2⅛	—⅛
Cannon Mills	21	20½	21	+½
Century Ribbon	8	6	8	+2½
Collins & Aikman	14½	13½	13½	+1⅛
Consolidated Textile	⅜	⅜	⅜	+⅛
Duplan Silk	12¼	11½	11½	....
Durham Hosiery, pfd	21	21	21	....
Gotham Hosiery	9	9	9	+1
Industrial Rayon	33½	31½	32½	+¾
Kayser, Julius	14	13½	13¾	+⅜
Kendall, pfd	53	53	53	—1
Mallison	2	1¾	1¾	—¼
Munsingwear	17⅜	16⅜	16¼	—⅛
Pacific Mills	18⅜	18⅛	18⅛	—⅛
Real Silk Hosiery	6½	6⅜	6½	+
*Tubize	5	5	5	....
United Piece Dye Works	18	18	18	....

*Listed on Curb.

▶New England Textile Stocks

	Sale	Bid	Asked
Am. Mfg. Co., pfd	41	40	45
Amoskeag	8	..	..
Arlington	25½	25	28
Associated Textile	10	10	15
Bates	60	44	49
Berkshire Associates, com	12⅛	6	8
Berkshire Associates, pfd	40½	23	26
Bigelow-Sanford, com	32½	..	..
Boott Mills	120½	60	80
Edwards	80¾	54	59
Esmond, pfd	98	95	99
Farr Alpaca	35½	38	..
Hamilton Woolen	40	55	..
Hill	7	8	11
Indian Orchard	10	5	10
Ludlow	105½	104	107
Merrimack, com	35	10	15
Nashua, com	7½	8	10
Nashua, pfd	29	28	33
Naumkeag	70	60	66
Newmarket	16½	11	15
Otis	45	42	47
Pacific	18	..	..
Pepperel	66½	65	68
Plymouth Cordage	63	65	68
York	8⅛	6½	..

▶Boston Wool Receipts

Receipts of domestic and foreign wools at Boston, also imports at Philadelphia and New York for the week ended Aug. 29, based upon data compiled by the Department of Agriculture, follow:

	Week Ended Aug. 29	Total to Date 1931	Total to Date 1930
Domestic	7,435,000	213,038,000	220,686,000
Foreign	506,000	31,201,000	48,095,000
Total	7,941,000	244,239,000	268,781,000
IMPORTS AT PRINCIPAL PORTS			
Boston	506,000	31,201,000	48,095,000
Philadelphia	653,000	36,990,000	33,411,000
New York	846,000	35,189,000	30,948,000
Total	2,005,000	103,380,000	112,454,000

QUOTATIONS

at close of business, Sept. 2, 1931

Prices cover average qualities unless otherwise stated

Cotton Goods

	Sept. 2	Aug. 26	Sept. 3, 1930
PRINT CLOTHS			
27 -in., 64x60, 7.60	2⅞c.	2⅞c.	4c.
38½-in., 64x60, 5.35	4¼c.	4¼c.	5½–5¼c.
39 -in., 68x72, 4.75	4¼c.	4¼c.	5¼–6 c.
39 -in., 72x76, 4.25	5⅛c.	5⅛c.	6⅜c.
39 -in., 80x80, 4.00	5⅛c.	5⅛c.	7⅛–7¼c.
BROWN SHEETING			
36-in., 56x60, 4.00	4¼c.	4¼–4¼c.	6½c.
36-in., 48x48, 3.00	5 c.	5 c.	7⅞–7½c.
37-in., 48x48, 4.00	4¼c.	4¼c.	5⅜c
PAJAMA CHECKS			
36½-in., 72x80, 4.70	5½c.	5½c.	6 c.
36½-in., 64x60, 5.75	4¼c.	4¼c.	5 c.
MISCELLANEOUS			
Drills, 37-in., 3 yd.	5⅜c.	5½ c.	8 c.
Denims, 2.20	11 c.	11 c.	12½c.
Tickings, 8 oz.	14 c.	14 c.	17½–17½c.
Standard prints	7 c.	7 c.	8 c.
Eastern staple ginghams, 27-in.	7½c.	7 c.	10 c.

Cotton Waste

(Prices Nominal)

Peeler comber	5½– 6
Peeler strips	5¼– 5½
Sak. comber	5½– 5¼
Choice willowed fly	2½– 3
Choice willowed picker	2 – 3
Sak. strips	6½– 7
Linters (mill run)	2 – 3
White spooler (single)	5 – 5¼

Cotton Yarn

CARDED (Average Quality)

Double Carded 2c.—4c. higher according to quality

SINGLE SKEINS OR TUBES (Warp Twist)

4s to 8s	$0.15	22s	$0.18½– .19
10s	15	24s	– .19½
12s	– .15½	26s	– .20½
16s	– .16½	30s	– .22
20s	– .17	40s ex. qual.	.32½– .33½

TWO-PLY SKEINS AND TUBES

8s-2	$0.15	26s-2	$0.20½
10s-2	– .15½	30s-2	– .21½
12s-2	– .16	36s-2	– .28
14s-2	– .16½	40s-2	.29 – .30
16s-2	– .17	40s-hi.brk.	.32 – .33
20s-2	– .17	50s-2	– .37
24s-2	– .19½	60s-2	– .42

SINGLE WARPS

10s	$0.15 – .15½	24s	$0.19
12s	– .15½	26s	– .20
14s	– .15½	30s	– .22
16s	– .16	40s ex.qual.	– .33½
20s	– .17		

TWO-PLY WARPS

8s-2	$0.15	24s-2	$0.19
10s-2	.15 – .15½	26s-2	– .20
12s-2	.15½	30s-2	– .21
14s-2	.15½– .16	40s-2 ordin.	– .29
16s-2	.16 – .16½	50s-2	– .37
20s-2	.16½– .17	60s-2	– .42

8s-2 and 4-ply skeins and tubes; tinged, 14; white, 15; waste, 13

HOSIERY CONES (Frame Spun)

8s	$0.14½	22s	$0.18 – .18½
10s	.14½– .15	24s	.19 – .19½
12s	– .15	26s	– .20
14s	– .15½	30s tying	.20½– .21
16s	– .16	30s reg.	.22 – .22½
18s	.16½– .17	30s ex.qual.	.24 – .25
20s	.17 – .17½	40s	.29 – .30

COMBED PEELER (Average Quality)

TWO-PLY—(Knitting Twist) Cones

20s-2	$0.28 – .30	60s-2	$0.48 – .49
30s-2	.33 – .33½	70s-2	.58 – .60
36s-2	.35 – .35½	80s-2	.68 – .70
40s-2	.37½– .38	90s-2	90 – .95
50s-2	.43 – .44	100s-2	1.08 –1.12

WARPS, SKEINS AND CONES

TWO-PLY—(Warp Twist)

20s-2	$0.30 – .31	60s-2	$0.49 – .50
30s-2	.33 – .34	70s-2	.61 – .62
36s-2	.36½– .37	80s-2	.70 – .72
40s-2	.38 – .39	90s-2	– .95
50s-2	.44 – .45	100s-2	1.12 –1.15

SINGLES

12s	–$0.22½	30s	$0.31 – .32
14s	– .23	38s	.35 – .35½
16s	– .23½	40s	– .36
18s	– .24	50s	– .40
20s	– .25	60s	.47 – .48
24s	.28 – .28½	70s	.57 – .58
28s	.30 – .30½	80s	.66 – .68

MERCERIZED CONES—(Combed, Ungassed)

26s-2	$0.45 – .47	90s-2	$1.18 –1.23
30s-2	.48 – .50	100s-2	1.48 –1.53
36s-2	.50 – .52	120s-2	1.88– 1.93
40s-2	.52 – .54	30s-2	– .59
45s-2	.54 – .56	40s-2	– .63
50s-2	.56 – .58	50s	.68 – .70
60s-2	.62 – .64	60s	– .78
70s-2	.75 – .77	70s	.88 – .90
80s-2	.87 – .88	80s	1.03 –1.08

Cotton Prices and Statistics

FLUCTUATIONS OF FUTURES

	Closed Aug. 27	For Week High	For Week Low	Closed Sept. 2	Net Ch'ge
September	6.86	7.05	6.79	6.66	—0.20
October	7.02	7.22	6.75	6.78	—0.24
November	7.14	7.33	7.04	6.91	—0.23
December	7.23	7.45	6.95	7.00	—0.23
January	7.34	7.55	7.05	7.09	—0.25
February	7.43	7.60	7.32	7.18	—0.25
March	7.54	7.74	7.26	7.28	—0.26
April	7.63	7.78	7.49	7.36	—0.27
May	7.72	7.93	7.44	7.45	—0.27
June	7.80	7.96	7.66	7.54	—0.26
July	7.88	8.08	7.63	7.63	—0.25

SPOT FLUCTUATIONS FOR WEEK

(Middling)

	New York	New Orleans	Liverpool
Thursday, Aug. 27		1.72	3.86
Friday, Aug. 28	7.15	6.85	3.83
Saturday, Aug. 29	7.25	6.92	3.89
Monday, Aug. 31	7.00	6.67	3.86
Tuesday, Sept. 1	6.95	6.67	3.65
Wednesday, Sept. 2	6.85	6.63	2.94

FOREIGN COTTONS

Egyptian Cotton

Alexandria Exchange, Sept. 1		Change
Nov. Sak	11.12	—0.19
Oct. uppers	7.92	—0.14

Sept.– ct. Shipment c. i. f. Boston

(Tariff not included)

Fully good fair Sak	13.75
Fully good fair to good Uppers	10.75

(By Anderson, Clayton & Co.)

Foreign cottons	F. O. B. New York, Cents
Peruvian Tanguis Strict Middling	17
Peruvian Pima No. 1	16½
Peruvian Moderate Rough	13
Peruvian Full Rough	17
China Tientsin No. 1	9¼
India Rough	7 to 9
India Smooth	7 to 9

(By Bruns-Nordeman Co.)

BASIS MIDDLING

	Saturday, Aug. 29	Saturday, Aug. 22
10 markets average	6.59	6.29
Memphis	6.20	5.85

PREMIUM STAPLES

First Sales from Factors Tables at Memphis

Grade Strict Middling	Prices Nominal
1⅛-in	9.00@ 9.25c.
1 3/16-in	10.00@10.25c.
1¼-in	15.00@15.25c.

CURRENT SALES

	For Week	Prev. Week	Week Before
Memphis total	2,004	4,188	2,996
10 markets	52,542	29,915	19,686

MEMPHIS RECEIPTS, SHIPMENTS, ETC.

	For Week	Last Year	Year Before
Net receipts	182	526	596
Gross receipts	3,887	4,719	3,565
Total since Aug. 1, net	1,403	3,052	3,235
Shipments	7,775	9,696	5,254
Total since Aug. 1	33,681	41,640	32,310
Total stock	85,619	129,910	37,262
Decrease for week	3,888	4,977	1,689
Unsold stock in hands of Memphis factors	10,940	27,043	.....
Increase for week	10	*1,244	.....

*Decrease

AVERAGE PRICE SEPT.-OCT. SHIPMENT HARD WESTERN COTTON

F.o.b. New England

	Middling	St. Middling
1 1/16-in	8½–8¾c.	9½–9¾c.
1⅛-in	9½–10c.	10½–11c.
1 3/16-in	11½–11¾c.	12½–12¾c.
1¼-in	15 –16c.	17 –18c.

Basis on New York, October 6.91.

SPOT FLUCTUATIONS AND STOCKS

Markets	Middling Aug. 26	Middling Sept. 2	Stocks Sales	Stocks This Week	Stocks Last Year
Galveston	7.00	6.65	744	384,498	202,322
New Orleans	6.89	6.53	1,034	532,022	311,500
Mobile	6.25	5.85	1,034	217,183	15,307
Savannah	6.56	6.28	1,230	335,690	152,650
Norfolk	6.88	6.50	3	47,143	42,574
New York	7.20	6.85	1,800	228,734	237,244
Augusta	6.69	6.19	590	66,094	61,330
Memphis	6.15	5.80	2,832	81,619	127,924
St. Louis	6.60	6.35	.....	.....	1,808
Houston	6.95	6.55	31,784	657,398	638,971
Dallas	6.45	6.05	31,852	5,443	10,736

Liverpool, 366 d.

DIFFERENCES ON AND OFF MIDDLING

	Dallas	Memphis	Montgomery	Augusta	Average
WHITE GRADES					
M.F	.75†	1.00†	.75†	.75†	0.83†
S.G.M	.60†	.75†	.65†	.63†	.67†
G.M	.50†	.50†	.45†	.50†	.48†
S.M	.35†	.25†	.25†	.25†	.29†
S.L.M	.50*	.40*	.50*	.50*	.47*
L.M	1.00*	.90*	1.00*	1.00*	.97*
S.G.O.**	1.50*	1.25*	1.50*	1.50*	1.48*
G.O	2.00*	1.50*	2.00*	2.00*	1.98*
YELLOW TINGED					
G.M	.40*	.35*	.50*	.50*	0.46*
S.M	.65*	.60*	.75*	.75*	0.70*
M.**	1.00*	.75*	1.00*	1.00*	.99*
S.L.M	1.50*	1.25*	1.50*	1.50*	1.52*
L.M	2.00*	1.50*	2.00*	2.00*	1.97*
YELLOW STAINED					
G.M	1.00*	1.00*	1.00*	1.00*	.98*
S.M.**	1.25*	1.50*	1.25*	1.25*	1.37*
M.**	2.00*	1.75*	2.00*	2.00*	1.99*
BLUE STAINED					
G.M.**	1.00*	1.00*	1.00*	1.00*	1.03*
S.M.**	1.50*	1.25*	1.50*	1.50*	1.48*
M.**	2.00*	1.50*	2.00*	2.00*	1.93*

**Grades not deliverable on contract. †On Middling. *Off Middling.

Wool

OHIO, PENNSYLVANIA AND WEST VIRGINIA (IN GREASE)

Fine delne..	$0.25½–$0.26½	¾ blood....	$0.23½–$0.24
Fine clthg ..	.21 – .22	½ blood....	.22 – .23
¼ blood.....	.24 – .25		

TEXAS AND CALIFORNIA (CLEAN BASIS)

Texas, 12 months	$0.58 –$0.60
California, Northern	.50 – .52

PULLED—EASTERN (CLEAN BASIS)

A.A.	$0.62 –$0.65	B-Super...	$0.46 –$0.48
A-Super....	.50 – .53	C-Super...	.41 – .43

MONTANA, IDAHO AND WYOMING (CLEAN BASIS)

Stap'e fine	$0.61 –$0.63
Staple ¾ bld.	.57 – .59
Fine and fine medium	.56 – .59
¾ blood	.49 – .51
¼ blood	.44 – .47

MOHAIR—DOMESTIC

Best carding	$0.23 –$0.25
Best combing	.31 – .33

MOHAIR FOREIGN (IN BOND)

Turkey fair, average	$0.17 –$0.20
Cape firsts	.18 – .21

FOREIGN CLOTHING AND COMBING (CLEAN BASIS IN BOND)

Australia:	
70s	$0.53 –$0.55
64s	.46 – .48
58s-60s	.41 – .43
(IN GREASE)	
Montevideo:	
58s-60s	$0.19 –$0.20
56s	.19 – .20
50s	.16 – .17
Buenos Aires:	
4s, 40-44s	$0.14 –$0.15
5s, 36-40s	.12 – .14

FOREIGN CARPET (GREASE BASIS IN BOND)

Aleppo washed	$0.22 –$0.24
China: Combing No. 1	.13 – .14
China Filling Fleece	.12 – .14
Szechuen ass't.	.12 – .14
Cordova	.14 – .15
Scotch black face	.15 – .17
East India: Kandahar	.17 – .19
Vican'r	.23 – .25
Joria	.23 – .24

Worsted Yarns

ENGLISH SYSTEM WEAVING

2-20s 36s	$0.75 –0.77½
2-24s 40s	– .85
2-26s 44s	.87½– .90
2-28s 46s	.92½– .95
2-30s 48s	.95 – .97½
2-32s 50s	.97½–1.00
2-30s, 64s fancy mixes	1.37½–1.45
(Single yarns 5c. less than above)	
2-36s, 58s	$1.17½–1.20
2-40s, 60s	–1.20
2-40s, 64s	1.35 –1.37½
2-50s, 66s	1.40 –1.45
2-60s, 70s	1.82½–1.85

ENGLISH SYSTEM KNITTING

2-20s, 44s in oil	$0.75 –0.77½
2-20s, 48s in oil	– .80
2-20s, 50s in oil	.80 – .82½
2-20s, 56s in oil	.90 – .92½
2-20s, 60s in oil	1.10 –1.12½
2-20s, 64s in oil	1.20 –1.25
1-18s, 48s dyed	.95 – .97½
1-18s, 50s dyed	.95 – .97½
(Oil yarns 17½c. less)	

FRENCH SYSTEM

1-20s, 58s	$1.05 –1.07½
1-20s, 60s	1.10 –1.12½
1-18s, 64s, dyed	1.32½–1.35
1-26s, 64s	1.10 –1.12½
1-30s, 60s, Warp	1.20 –1.22½
1-30s, 64s, Warp	1.22½–1.25
2-30s, 64s, Fancy mixes	1.45 –1.47½
2-40s, 64s, Zephyrs	1.35 –1.40
1-50s, 66s	1.47½–1.52½
2-50s, 66s	1.50 –1.55
1-60s, 70s	1.85 –1.87½
2-60s, 70s	1.90 –1.95

FRENCH SPUN MERINO WHITE

1-30s, 50-50-58s on cops	$ .95 –1.00
1-40s, 50-50-60s on cops	1.10 –1.15
1-40s, 50-50-64s on cops	1.12½–1.15
1-40s, 50-50-64s Australian cops	1.20 –1.25

Underwear mixes, 3 to 5c., Solid color, 35c. additional.

New York Top Futures

	Closed Aug. 26	For the Week—High	Low	Closed Sept. 1	Net Chge.
August	....	....	....	73.00	....
September	76.00	76.00	74.50	73.00	—3.00
October	73.50	73.50	73.00	73.00	— .50
November	73.50	73.50	73.00	73.00	— .50
December	72.50	72.50	72.00	72.00	— .50
January	72.50	72.50	72.00	72.00	— .50
February	72.50	72.50	72.00	72.00	— .50
March	72.50	72.50	72.00	72.00	— .50
April	72.50	72.50	72.00	72.00	— .50
May	72.50	72.50	71.50	72.00	— .50
June	72.50	72.50	71.50	72.00	— .50
July	72.50	72.50	71.50	72.00	— .50

Tops and Noils

TOPS—BOSTON

Fine (64-66s)	$0.85–$0.87
Half-blood (60-62s)	.78– .80
High ¾ blood (58s)	.70– .72
Aver. ¾ blood (56s)	.63– .65
Low ¾ blood	.60– .62
High ½ blood (50s)	.53– .55
46s S. A. and N. Z.	.51– .53
44s S. A. and N. Z.	.50– .52
40s S. A. and N. Z.	.48– .50

TOPS—BRADFORD, ENG. (AUG. 29)

Fine (70s)	26 d	¾ bld. (56s)	16 d
Fine (64s)	23 d	½ bld. (50s)	12½d
¾ bld. (60s)	21 d	Cross-bred (46s)	10½d
¾ bld. (58s)	18 d		

NOILS—BOSTON

Fine	$0.38–$0.41	High ½ bld.	$0.31–$0.33
Half-bld.	.36– .38	Low noils	.27– .30
Aver. ¾ bld.	.34– .36	Medium colored	.24– .26
Fine colored.	.31– .33		

Wool Substitutes

WOOL WASTE

Lap, fine white	$0.60 –$0.65
Lap, fine colored	.46 – .50
Hard ends, fine white	.50 – .52
Hard ends, ½ blood white	.33 – .35
Hard ends, fine colored	.22 – .25
Hard ends, medium colored	.15 – .18
Card, fine white	.22 – .25
Burr, fine Carbonizing	.27 – .30

OLD WOOLEN RAGS (GRADED FOR MFRS.)

Merinos, Coarse Light	$0.05 –$0.05½
Merinos, Fine Dark	.03½– .04
Merinos, Fine Light	.10½– .11
Serges, Blue	.05½– .06
Serges, Black	.05½– .06
Serges, Red	.08 – .09
Knit, White	.21 – .22
Knit, red	.10½– .11
Knit, Light Hoods	.11½– .12½
Worsted, Light	.05 – .05½
Worsted, Blue	.05½– .06
Worsted, Black	.06 – .06½

Silk Yarns

THROWN SILK (60 day basis)

	Nominal
Japan organzine, 2 thd. spec. gd. XX. sk. 85%	$3.95
Japan organzine 2 thd. grand sk. 83%	3.80
Japan organzine, 2 thd. sp. crack. sk. 81%	3.70
Japan crepe, 3 thd. gd. XX bob. 83%	3.75
Japan crepe, 3 thd. sp. crack. bob. 81%	3.65
Japan grenadine, 4 thd. sp. grand singles, 87%	5.05
Japan grenadine 3 thd. 90%	5.85
Canton crepe, 3 and 4 thd. 14/16 on bobbins	2.65
Hosiery tram, 3 thd. Japan 90%	4.85
Hosiery tram, 5 thd. Japan, 85%	3.70
Hosiery tram, crack XX 78%	3.35

SPUN SILK YARNS (Terms: net 30)

40/2	$3.10	60/2	$3.45
54/2	3.30	62/1	2.35

Raw Silk

(60 Day Terms. Spot Goods.)

	13/15 White	20/22 White	20/22 Yellow
Super Grand, 87%	$3.15	$2.70	$2.50
Special Grand, 85%	2.95	2.60	2.45
Grand XX, 83%	2.80	2.55	2.40
Special Crack, 81%	2.70	2.55	2.40
Crack XX, 78%	2.60	2.50	2.35
Extra Extra, 73%	2.55	....	....
Best Extra, 68%	2.50	....	....
Canton filature, new style, 14/16			$1.85
Canton filature, new style, 20/22			1.77
Tussah filature, 8 cocoon			1.05

NATIONAL RAW SILK EXCHANGE

	Close Aug. 26	For the Week—High	Low	Close Sept. 1	Net Chge.
August	2.41	2.41	2.39	....	....
September	2.36	2.44	2.34	2.40	+.04
October	2.35	2.42	2.34	2.38	+.03
November	2.34	2.42	2.34	2.37	+.03
December	2.34	2.41	2.34	2.36	+.02
January	2.34	2.40	2.33	2.37	+.03
February	2.34	2.40	2.33	2.37	+.03
March	2.34	2.40	2.32	2.37	+.03
April	....	2.40	2.32	2.37	....

Total number of bales, 7,140. Total approximate value, $2,469,012. Trading unit crack XX 13/15 white 78%.

Domestic Rayon

VISCOSE PROCESS

Denier	Filament	First	Second
50	14	$2.15	$1.95
75	18–30	1.35	1.25
100	18–40	1.10	1.00
125	36–50	1.00	.90
150	30	.70	.67
150	24–40	.75	.72
150	60	.85	.82
150	75–90	.85	.82
170	24–27	.75	.72
170	60	.85	.82
200	30	.75	.72
200	35–42	.75	.72
300	42–62	.63	.60
450	54–60	.63	.60
600	72–96	.63	.60
900	100–144	.63	.60

NITRO-CELLULOSE PROCESS

Denier	First Qual.	Second Qual.	Denier	First Qual.	Second Qual.
75	$1.35	$1.25	150	$0.75	$0.72
100	1.05	.95	175	.75	.72
125	.95	85			

CUPRAMMONIUM PROCESS

Denier	Filament	Price	Denier	Filament	Price
15	24	$3.10	65	45	$2.00
25	24	2.85	80	60	1.70
30	24	2.60	100	75	1.35
40	30	2.40	120	90	1.22
52	30	2.20	150	112	1.10
			180	135	.97

ACETATE PROCESS

Denier	Price	Denier	Price
45	$2.25 2.75	120	$1.90
55	2.05–2.55	140	1.30
65	2.45	150	1.40–1.85
75	1.80–2.70	200	1.55
100	1.65–2.45	300	1.50

Rayon Waste

Open bleached waste	$0.13–$0.14
Open unbleached waste	.10½
Bleached thread waste (mfs.)	.09
Bleached thread waste (misc.)	.06– .07
Colored thread waste	.03– .01
Colored clips	.03– .04

CONVERTED RAYON WASTE

Bleached tops	$0.30–0.32½
Unbleached tops	.28– .29
Bleached noils	.11
Unbleached noils	.09½
Bleached garnetts	.12
Unbleached garnetts	.13
Colored garnetts	.10– .11

Silk Waste

Kibizzo Kakai Grand XX	$0.50
Kibizzo Kakai Triple Extra	.44
Frison Grand Double	.49
Pierced Cocoons	.50

TEN MEN
Wait 30 Days

There are ten men in this mill to read one copy of *Textile World* each week. When the chief is away, it has to lie on his desk for a week, then it goes on to the superintendent's office, then to the purchasing agent.

No. 10 man got his copy 30 days after it was out. Several articles were torn out, a few ads were gone. He missed a series of articles from which he had been getting new ideas.

The remedy is to get more than one copy. No mill can afford these days to have its key men ignorant of current developments. Check over your routing list now. See when No. 10 gets his copy and how dog eared it looks. Then send us your order for the necessary number of copies to assure each executive and key man in your plant having a personal copy to study at his leisure.

Du Pont Chemists Show Synthetic Fibers Produced From Ethylene Glycol

SYNTHETIC fibers produced by the action of ethylene, glycol and a compound obtained by treating castor oil with an alkali were shown this week by Wallace H. Carothers and Julian W. Hill of the E. I. du Pont de Nemours, experimental station, at the Buffalo meeting of the American Chemical Society. The fibers are said to possess good tensile strength, luster, pliability, and elasticity, and to demonstrate clearly for the first time the possibility of obtaining useful textiles from strictly synthetic materials.

According to the du Pont chemists, ethylene glycol, which finds popular use as an anti-freeze compound, is treated with an alkaline derivative of castor oil to produce a complex organic compound, known as the trimethylene ester of hexadecamethylene dicarboxylic acid. This product in turn is used in the preparation of a fiber which resembles cellulose in the general plan of its molecular structure. In this way there have been built up from simple organic substances complex compounds with molecular weights four times greater than has been possible hitherto.

While the methods of preparation and the raw materials so far studied are too costly to permit immediate commercial application, it is believed that the laboratory experiments point to the fact that the synthetic-fiber industry may ultimately become independent of the natural cellulose-bearing raw materials now required.

Other papers of particular interest to textile men at the meeting were on "New Wetting Agents," presented by I. Gubelmann, H. J. Weiland, and C. O. Henke; "The Fading of Dyes and Lakes," by W. D. Bancroft and J. W. Ackerman; "Color Specification by the Recording Color Analyzer," by E. M. Shelton and R. T. Emerson; "The Effect of Tension on the Dye Absorptive Properties of Regenerated Cellulose Rayon," by B. L. Hathorne; and "A general Method for Determining the Substantivities of Dyes," by W. P. Cohoe and E. R. Cohoe.

▸ Carolina Yarn Association Prepares for Outing

The second annual golf tournament and banquet of the Carolina Yarn Association will be held at Sedgefield Inn, Greensboro, N. C., Sept. 18 and 19, according to an announcement by C. C. Harding, Charlotte, N. C., president of the association. The banquet and awarding of trophies, including an elaborate program of entertainment, will take place Saturday night. President Harding states that a large attendance of knitters and weavers not only from North Carolina, South Carolina and Virginia but from the entire south is expected. Officers of the association, in addition to President Harding, are Frank Shannonhouse, vice-president; R. M. White, secretary; and Joseph R. Morton, treasurer. Chairment of the various committees are: Howard Cannon, membership; W. T. Cheatham, tournament; and Ray Weaver, entertainment.

▸ Sends Out Pledge Cards for a "Wool Christmas"

Eavenson & Levering Co., wool scourers and carbonizers, Camden, N. J., have sent out a letter encouraging support to a plan for a "Wool Christmas." Pledge blanks are furnished for those who so wish to indicate their agreement to give at least three gifts made wholly or largely of wool. "Wish it with Wool" is the slogan. The company offers to supply at cost pledge cards to firms which may be interested. The results of the campaign will be summarized from time to time in the Eavenson & Levering house organ "Making the Grade—With Wool."

TOO BUSY TO SHUT DOWN

Reminiscent of the "good old days" in the textile industry was the announcement this week by the Nashua (N. H.) Mills of the Nashua Mfg. Co. that a rush of orders had caused indefinite postponement of the plant's annual Labor Day shut-down. The mills usually close for two weeks.

Another item reflecting progress, at least in rate of mill operation, was the statement by the Pennsylvania Department of Labor that the most noticeable improvement in the Philadelphia district had taken place in the textile industry.

▸ Spurt in Wool Industry in July

Wool consumption as reported by the Dept. of Commerce for July totals 53,886,300 lb. grease equivalent as compared with 45,805,477 in June and 34,682,144 lb. in July 1930. This is the largest single month's figures for several years.

The figures for percentage of active machinery for July indicate that most of this wool consumption was of combing wools, for combs ran 115.2% of maximum single shift capacity in that month while cards ran 63.6% capacity. These were both good gains over June's figures and considerably above July of a year ago. Worsted spindles were run at 82.9% capacity in July against 72.6% and 53.4% in June 1931 and July 1930; woolen spindles ran at 64%, against 60.9 and 51.9; broad looms ran at 64.4% against 60.8 and 48.0, narrow looms at 43.4 against 46.2 and 42.1, and carpet looms at 38.1% against 40.0 and 31.2. Apparently the carpet field is still running light, but cloth manufacture took a decided jump ahead.

▸ Hosiery Union Shapes New Wage Agreement

Development of a new wage agreement in the full-fashioned hosiery industry to succeed that which expired Aug. 31 occupied the attention of the special convention of the American Federation of Full-Fashioned Hosiery Workers held this week in Philadelphia. Wide variation in rates was reported from the different full-fashioned hosiery centers and indications pointed to a prolonged discussion of the subject prior to the final acceptance of a wage scale. The scale, when decided upon, will be submitted to the manufacturers for their consideration. Dr. George W. Taylor, hosiery statistician in the University of Pennsylvania, made a speech in Reading, Pa., Tuesday in which he forecast a reduction in hosiery wages.

▸ To Feature Cotton Dresses at Show Sept. 17

The Fourth Annual Trade Conference and Manikin Parade, sponsored by the Cotton-Textile Institute, in cooperation with the National Association of Cotton Dress Manufacturers, has been announced for Thursday afternoon, Sept. 17, at 2:30 p.m. This year for the first time, the cooperation and support of the United Women's Wear League and of the $3.75 dress manufacturers group of the Associated Dress Industries of America have been extended to widen the scope and influence of this unique combined showing of the new cottons. As in the past the event will be held at 40 Worth Street, space having been provided on the fourth floor of the Thomas Street annex.

There will be this year 15 converters and selling houses taking part in the conference, including a number which have not previously participated.

▸ Columbia University Offers Silk Course

Columbia University of New York announces an evening course of 15 lectures on silks, rayons, ribbons, velvets, etc., beginning Monday, Sept. 28, and continuing each Monday for 15 sessions; hours, 7:30 to 9:30 p.m. The lectures include raw silk, spun silk, rayon, silk throwing, skein and piece dyeing, preparatory processes, weaves, weaving, jacquard weaving, silk printing, silk finishing, ribbon manufacturing, pile fabrics, standard market fabrics, fabric analysis, and cost calculating, the instruction being carried along in the fullest detail from raw material to finished goods.

The lecturer will be James Chittick, who has conducted these courses for many years.

▸ Georgia Mill Men to Meet in Atlanta, Sept. 25

Slashing, weaving and mechanical problems will be discussed at the fall meeting of the Textile Operating Executives of Georgia, which will be held at the Georgia School of Technology, Atlanta, Ga., Sept. 25, according to a recent announcement from Robert W. Philip, secretary-treasurer. The first session will begin at 9:30 a.m.

The following questions are among those to be discussed in the meeting:

1. Is it better to have quick drying process with high temperature on cylinder at high speed, or low temperature on cylinder at low speed? Give your experience as to the best temperature and yards per minute in slashing. Have you tried higher or lower speed, and what results?

2. How can you make a good cut mark on denims or other colored warp yarn that a weaver can see? (b) How can you prevent the dye used for the cut mark from sticking to the slasher cylinder?

3. What is the best formula for sticking the jacket to the slasher roll? What material have you found best to use for the jacket?

4. Do you specify the depth of wire as well as the thickness when ordering reeds, and will varying depth cut shuttles or throw reed out of alignment?

5. What is the best way to set a loom to keep bow out of the warp threads two or three inches from selvage and prevent cloth from showing baggy in the center?

6. Should loom sections be made large enough to keep the best fixers busy and force the weaker ones to get by the best they can?

7. How many pounds of coal should it take to a horsepower where a plant is operated entirely by steam? State type of equipment and feed.

8. What have you found to be the best preparation for cleaning and protecting coils in motors?

▸ Union Will Ask Paterson to License Silk Mills

The silk strike in the Paterson, N. J., district enters its sixth week with scant prospect of settlement, beyond the adjustments previously effected. The legislative committee of the Joint Silk Strike Committee representing the strikers announced that it would seek municipal regulation of silk mills by the licensing of the mills within the city of Paterson. The committee is at work on the measure which will be presented before the Paterson Board of Aldermen. The proposed ordinance would make a license fee of $250 mandatory and would demand compliance with city, state and federal health and sanitary codes.

The leaders of the N.T.W. union and of the United Front General Strike committee, announced the opening of a week's agitation to "frustrate the design of the A. F. of L. leaders," basing this on the assumption that the leaders of the latter union are planning a "sell-out" of the strike.

An attempt to blow up the Dunlop Mill in Paterson, N. J., was charged; it was stated that an alert watchman and the police found a heap of gunpowder connected with an electric switch.

A. J. Muste, dean of the Brookwood Labor College and a member of the Joint Strike Committee of the Amalgamated Associated Silk Workers' union and the United Textile Workers' union announced the opening of an A. F. of L. relief station. It is under the supervision of Peter Vanderheide, of the jacquard workers.

Trouble again deve'oped last week at the General Fabrics Corp. plant in Central Falls (R. I.) as the plant reopened. The climax of a week of mild disputes was reached when Ann Burlac, girl strike leader, led 100 strikers to the mill; she, with 10 others, was arrested by Central Falls police after a clash. She was held in $10,000 bail.

Superintendent George Manton said 50 persons had resumed work at the mill. Only one shift was put on, and Mr. Manton estimated it would be two months before the plant was operating with its full force which totals 800 employes.

▸ S.T.A. Master Mechanics to Meet Oct. 16

The regular fall meeting of the Master Mechanics' Section of the Southern Textile Association, of which E. P. McWhirter, Union, S. C., is chairman, will be held in Gastonia, N. C., Friday, Oct. 16, according to a recent announcement.

▸ Orderly System of Color Again Available

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to match any specific shade would be shown. To do this, the color-depositing power, or strength, of the dyes, would have to be known, as, of course, in mixing dyes, their strengths have to be taken into consideration, if only known approximately, from a working experience. This factor is expressible as an exact figure, which could be called the color-depositing coefficient of the dye, and is information that should be supplied with all dyes by the manufacturers. This color-depositing character of a dye should not be confused with its exhaustion. A dye may exhaust rapidly and yet have feeble color-depositing power, and vice versa.

In advocating the use of an orderly system of color mixing, it is not suggested that the dye manufacturers cease to improve their dyes, or cease their search for new ones. As new and better dyes are produced, by all means let us use them. In fact, the possible appearance of more brilliant and more permanent colors is a matter of constant and consuming interest.

▸ Space Nearly Sold Out for 1932 Greenville Show

Many machinery manufacturers are already planning their displays at the tenth Southern Textile Exposition, which will be held in Greenville, S. C., the week beginning Oct. 17, 1932, according to a recent statement from officials of the Textile Hall Corporation. Most of the space in the large exposition building has already been reserved.

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Business News

Fuller-Lehigh Moves Boston Office

The Fuller-Lehigh Co., New York, announces the removal on Aug. 28, of its Boston office from 80 Federal Street to 49 Federal Street. H. H. Leathers continues in charge as district sales manager.

J. H. Windle Opens Office in Providence

J. H. Windle, mill engineer and machinery agent, has opened an office at 30 Olneyville Square, Providence, R. I., where in addition to service on plans, surveys and appraisals, he will offer new and used machinery for cotton, silk, worsted and rayon manufacture. Mr. Windle was formerly northern and export sales agent for Woonsocket Machine & Press Co., Fales & Jenks Machine Co. and Easton & Burnham Machine Co.

Easton Car Buys Lakewood Industrial Division

The Lakewood Engineering Co. has sold the industrial division of its business to the Easton (Pa.) Car & Construction Co. Hereafter the complete line of Lakewood tier trucks, electric trucks, trailers, skids and industrial cars will be manufactured at Easton, Pa.

This consolidation rounds out the Easton line of cars and trucks and makes it possible for the company to supply practically every industrial car or truck requirement.

Worthington Announces Several Appointments to Its Staff

Several important additions and changes have been made affecting the staff of the Worthington Pump & Machinery Corp., New York, N. Y.

Otto Nonnenbruch, for the last four years chief engineer of the Diesel department of I. P. Morris and De La Vergne, Inc., Philadelphia, Pa., and prior to that with Worthington in various capacities for nine years, rejoined the latter organization as of July 1. Mr. Nonnenbruch will make his headquarters at Buffalo, N. Y., as special sales representative.

H. G. Wood, formerly assistant manager of the New England division of the Westinghouse Engineering & Mfg. Co., has joined the Worthington organization in the capacity of electrical sales engineer.

E. M. Paullin, Jr., formerly of General Electric Co., New York office, has been appointed electrical sales engineer at the Cincinnati (Ohio) works of Worthington.

Joseph F. Hecking, formerly with the Diesel engine sales division in New York, goes to Diesel and gas engine sales division at Buffalo. G. A. Herrmann, formerly sales engineer at Chicago, becomes acting district manager at St. Paul.